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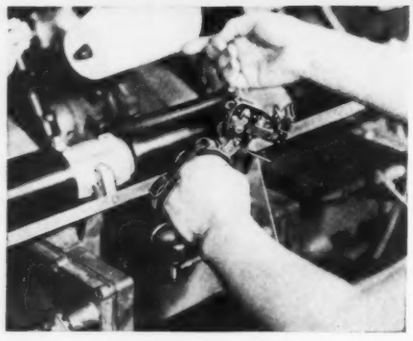

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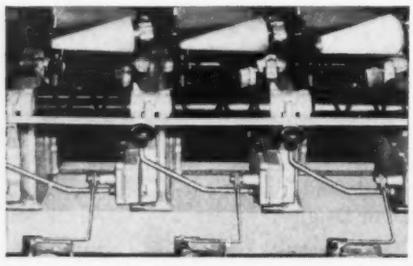

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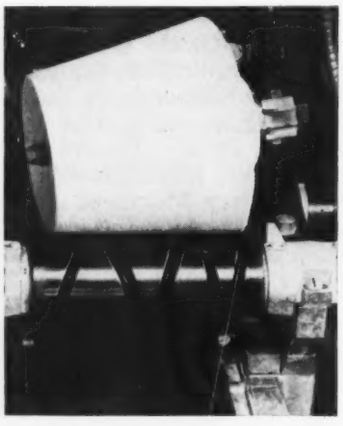

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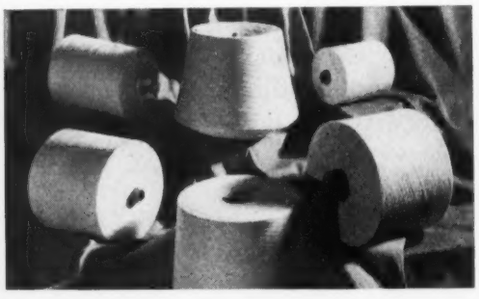

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TEXTILE WORLD

DOUGLAS G. WOOLF, Editor

Once More, Hope Springs Eternal

OUT OF THE CONFUSION that has gripped this country, as well as the rest of the world, because of the heart-breaking and still unbelievable events in Europe during the last two months, must come order and purpose and hope. In no other way can we be true to ourselves as individuals, to those who are dear to us, to our nation, and to what remains of freedom in the world.

To that end, it is necessary to organize our thinking on certain basic propositions.

First, it is neither the desire nor the intent of the great majority of the people in this country to intervene, now, in what remains of the Second World War. Even those of us who felt that we should have gone to the aid of the Allies last fall while the democracies of Europe still had a chance, must realize that there is no longer any hope of effective action in that direction. Nor do the people of the United States want to take a part in the "settlement" (an ironic term) of the post-war problems in Europe. We tried that last time—and failed miserably. We have infinitely less chance of functioning in such a capacity this time. In 1918 and 1919, we were an ally of the victors. In 1940 we enjoy nothing but the hatred and scorn of the victors. If we failed then, we would fail even before we started this time.

In fact, the only way we can *help* in Europe now is by "giving till it hurts" to the Red Cross and other similar agencies for the relief of the millions of refugees, innocent victims of Thug Hitler and Vulture Mussolini. The tragedy of those hordes of sufferers—mostly women, children, and old men—is so stark that no editorial pencil can possibly describe it. We can all help—by money contributions, and by taking child refugees into our homes. Never has there been a clearer call for humanitarianism. Every American, still able to eat, *must* heed it. (See page 44.)

Second, we must start now to defend ourselves and the rest of the Americas against aggression. We must not build up straw men, nor on the other hand can we afford to ignore the implications of the tinder-boxes all around us. We must not wave an empty pistol and shout meaningless words at those nations whose methods we detest, nor on the other hand can we afford to lose one day of preparation toward loading that pistol against the time when we may need it. The defense program must get off of a hysterical basis, and on to a purposeful and intelligent basis.

Third, we must learn immediately the principal lesson taught by the defeat of the European democracies: namely, that the failure was a governmental failure. It is no longer necessary to name names. All the world knows them, now. As the history of the last ten years becomes clearer in retrospect, the tragedy of the failure of democratic government in England and France, particularly, will become even more apparent.

That lesson is hard for a democracy to learn. Its reception is harder still in an election year. For the next several months, national unity will be obscured by the shell-fire of political blitzkrieg. Eventually, however, we shall have a government duly elected by the will of the people. That means months of delay, but at least we can start now to serve notice on the government in power, and the government which will be in power as a result of the election, just what sort of a mandate the people are giving it.

In essence, that mandate is a command to maintain at any cost and against all odds the freedom which has made this country great. At no time in our history—not even excluding the Revolutionary War, the War Between the States, or the First World War—has that need been so urgent.

IN THIS FIGHT—and it *is* a fight—American industry must play the dominant role. Reviled during the last decade as the cause of depression, and during the last eight years as an anti-social force, it emerges once more as the vitalizing influence which has created the United States as it exists today and as the one factor that can lead us back into the path of sanity.

We are not trying to white-wash the mistakes of American industry since the last war. They have been many and grievous. But they were not *class* errors. They were merely the expression of a people drunk with the heady wine of post-war inflation and deluded by the mirage of an endless prosperity. Every man and woman threw every dollar they could scrape up into the pot which boiled and seethed, and finally exploded in the fall of 1929.

In this new post-war era, even while new arenas of war are being prepared in the Balkans and the Near-East, we in America must orient ourselves to the safeguarding of peace on this Continent.

WHAT DOES THIS MEAN to the textile industry? It means these things:

1. Individual mills must gear themselves up to meet the demands of the defense program. Sloppy methods of management, of production, and of distribution, must yield to efficiency through stronger management,

modernization of plant and equipment, and sane pricing qualities.

2. The industry as a whole must coordinate its resources and its thinking. We have long preached this type of coordination as advisable. Now we urge it as essential. The first step, in our opinion, should be a mass meeting of all groups in the textile industry, sponsored by their associations, at which all initiative and energy would be pooled in a common cause: the defense of this country in so far as this industry can contribute to that defense. This is a "must" job.

3. The industry must keep its shirt on. There will be the temptation to outrun sane production policies, in response to speculative demand. Always remember this: We have an over-capacitated industry. Bottle-necks in textile production are few; in fact they are almost non-existent. We can meet every now-apparent demand placed upon us, by individual mill efficiency and without resort to third-shift, or other forms of over-production. If the demand eventually becomes greater, we can meet that need as it arises. To anticipate it now would be economic suicide for both management and workers. One sure way to defeat the program for American freedom is to establish production schedules, in individual branches of American industry, which point toward eventual glut and collapse. That lesson should have been learned by now. We hope it has been learned.

INDESCRIBABLY AWFUL as have been the events of the last few months in Europe, there is no reason for defeatism in this country today. There is, on the contrary, every reason for purposefulness. And that purposefulness must be composed of the honest endeavor of every industry, every labor group, every farm group, every consumer group, every class, toward a common objective.

Realistically, we know that mutuality of effort is not easy. But, also realistically, we know it *has* to be achieved. This country has met and surmounted crises in the past. It will meet and surmount this greatest of all crises in the same spirit.

But there can be no attitude of "let George do it." George, whoever he is, won't do it. It can only be done by every person and every group, working individually on his or its own program, and working collectively on the program of the United States.

We have all wondered, recently, what we could do in the world collapse we have been witnessing. For a while, the answer seemed to be: nothing. In the last few weeks, unless this writer as a seasoned reporter misses his guess, people everywhere in this country have found the answer. They can do just this: Hold the line of freedom, at any sacrifice.

If we *all* hold that line, there will be no return to the Dark Ages here, as there has been in Europe.

Douglas G. Woolf

THE EDITOR SAYS

Bouquets:

TO ROBERT STEVENS, Charles Sweet, Earle Stall, Arthur Besse and Howard White for serving in an advisory capacity on textiles with the National Defense Commission. It's a swell line-up, and the job they have to do is a vital one. They are assured of the cooperation of all groups in the industry . . .

To Herbert J. Ball, on his election to the vice-presidency of the American Society for Testing Materials. For years he has given generously of his time and effort to the chairmanship of Committee D-13 of that society. His election was in every sense a recognition of merit . . .

To Catherine Cleveland for eleven years of outstanding service as consumer consultant for the Cotton-Textile Institute. Her resignation to take charge of the sewing projects of WPA represents a deep loss to this industry. Her style shows have been a superb contribution to cotton promotion. She went out of the industry in a blaze of glory by staging her last, and best, show at the Gastonia Cotton Festival. Selfishly, we wish her a speedy return . . .

To Merrimack Mfg. Co.—and its stylist Adele Benjamin—for cooperating with the Cotton-Textile Institute by putting on a supplementary corduroy and velveteen style show at Gastonia . .

To Roy A. Cheney, for his stirring call to arms to the Underwear Institute in the June 15 *Institute News*. It is that kind of leadership which will enable the textile industry to serve effectively in national defense . . .

To Earl Constantine, for outlining so clearly and constructively, at the annual meeting of the National Association of Cost Accountants, the urgent need for effective association action. In his own organization—the National Association of Hosiery Manufacturers—he practices what he preaches . . .

To the American Viscose Corp., on the tenth anniversary of the starting of its Crown Quality Control Plan.

Stuart W. Cramer

One of the great builders of the southern textile industry passes with the death of Stuart W. Cramer. He first built, as an engineer, plants for others. Later, he built for himself the town of Cramerton, N. C., one of the model mill villages of the South.

But he did not stop there. He contributed immeasurably to the technical knowledge of textile manufacturers; he espoused and advanced in every way the cause of textile research; he participated actively and constructively in every forward associational activity in the cotton-textile industry.

Fortunately, he left the results of his building in safe hands. Major Stuart Cramer, his son, possesses those qualities of ability and character which made his father great. He has applied them to management of the Cramerton Mills during the years of his father's last illness. He is carrying on, in the family tradition.

The Next Decade?

IN OUR ANNUAL NUMBER, we invited readers to send in thoughts and comments on "The Next Decade in Textiles." We received a marvelous response and have a folder heaping full of predictions.

We had planned to run them in special sections—in July and August. But since then hell has broken loose. The world has been torn from its moorings.

It would not be fair to the contributors to those proposed symposia if we published them now. Any thought that any of us had last winter has been subject to revision time and time again—and right now is subject to further revision ad infinitum.

And so we shall keep those responses in their folder in the hope that sooner or later the world will return to sanity and that the predictions of a few months ago may again be applied to the textile industry.

Meanwhile, we thank our readers for their cooperation and promise them that if, as and when there is any basis for forecast, their letters will be taken out of the folder, dusted off, submitted to their authors for possible revision and published in these columns.

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Now Three Cotton Stamp Sales Areas

A THIRD cotton stamp sales area was set up in Minneapolis and St. Paul early in July. The plan is in operation in Memphis, Tenn., (view at left was taken on opening day in that city), and Springfield, Mass. A fourth area will be brought into the program on the West coast before long, and possibly another in the South. Department of Agriculture will then take a breathing spell to study its results. If reports are good, and if Congress appropriates the money, important expansion might follow next year. Officials say department stores like this type of distribution; that customers buy sensibly. Farm organizations are eyeing the scheme suspiciously, because 85% of each dollar appropriated goes into processing, not into farm pockets. Part of the expense may be shifted to some other agency. Stamp is shown at inset in adjacent photograph.

Defense . . . and Textile Demand

A survey of the new program in terms of effect on this industry

McGRAW-HILL WASHINGTON BUREAU

PAUL WOOTON, Chief Correspondent
Blaine Stubblefield
Irvin D. Foos Carter Field
Robert Colborn M. G. Maury

By BLAINE STUBBLEFIELD

IN THE FIRST WORLD WAR back in 1918, this country mobilized about 4,000,000 men, anticipated inductance of millions more by producing equipage in such astronomical lots as 22,000,000 blankets, 800,000,000 sq. yd. of cotton textiles, 40,000,000 undershirts, 13,000,000 pairs of woolen breeches. At the war's end, the Government was spending $22,000,000 per month for textile materials, about one-fourth of all Quartermaster activity. Yet no movement of United States troops was ever delayed a single day for lack of textile goods.

The intention of the Administration is that the textile industry shall meet any emergency that may come in the future with equal effectiveness, with more efficiency, and with far less dislocation and waste than it met the past one. Present authorized increases in man-power of the Army and Navy are not large enough to put any particular strain on the industry or on its raw materials. But the fact that a Textile Division has been set up in the National Defense Commission seems to mean that a problem does exist. It must be assumed, therefore, that a large-scale mobilization is seen as possible or probable.

The Textile Division is organized under authority of Edward R. Stettinius, Jr., who is in charge of raw materials for the National Defense Commission. Thus one would assume that the division's scope would include raw cotton, wool, silk, flax and synthetic fibers. But goods from the loom have been included also, as they are the raw materials of the cutting industries. Knit goods, such as undershirts, socks, etc., are purchased direct from the manufacturers, as are other textiles. It should be clearly understood that the Textile Division has nothing to do with actual purchasing. Its job is to coordinate the supply of fibers and goods by manipulating the supply and distribution and consumption valves.

Neither the press office of the commission, nor the members of the division, feel at liberty to publish even so much as their methods of work or a statement of their problem as they see it. They say simply that they are there to handle textile matters, from day to day, as they affect the national defense.

Comparative smallness of our defense forces, existing and authorized as a result of the current excitement, is seen in the simple addition of figures. The regular Army is 280,000 men. Congress has raised the limit to 400,000. An appropriation is being made to equip 375,000. Thus 95,000 new men are to be outfitted, including officers. Then there is the National Guard, the Army Reserve, and the Civil Conservation Corps; all but CCC are more or less inactive. These extra-regular groups add up to about 850,000 men, all eligible for service. In all, there are 1,250,000, of which roughly one-quarter are already equipped; the other three-quarters would need mostly new stuff.

Authorized top strength of the Navy is 190,000, but the regular Navy appropriation for 1941 provides equipment for only 170,000. Naval reserves total 54,530; Marines, 26,839; Marine reserves, 15,800. That adds up to only 287,000.

Present potential Army of 1,250,000, plus the 300,000 man Navy, would make a defense force of just over a million and a half. Not a very big fighting machine, as things go today.

But any one who looks at the signs of the times can see that they point to huge manpower as a distinct probability. A regular Army of 750,000 is the biggest that has been actually proposed in Congress as yet. A proposal of universal conscription involving up to 40,000,000 men has been made by Senator Burke, but President Roosevelt's administration plan is still in the making. Burke's huge army would be partly older men for local defense, and what proportion would be in uniform is not known at present. Seventy per cent expansion of the Navy, giving us by far the biggest fleet in the world, soon will be authorized, and construction toward that end, within a year or two, will bring the Navy manpower near the 500,000 mark. Undoubtedly several extra-military organizations of large size would be set up in any big defense effort and probably members would wear uniforms.

TOTAL APPROPRIATIONS for cloth, woolens, materials and for the purchase and manufacture of the Army for fiscal 1941, is $75,004,000. While the Army issues clothes free to its enlisted men, the Navy sells them (after the initial outfitting) from stores which are maintained by a revolving fund. The 1941 appropriation to this fund is $2,000,000 which brings it up to $17,000,000. Navy manufactures its own clothing from purchased cloth. Appropriations for the Navy reserve, $3,000,000; for the Marine Corps, including reserves, $1,793,000. Neither Army nor Navy will make known their intended purchases, for fear of causing market disturbance.

Of course, manufacturers would like to have a breakdown of these appropriations, showing how much money will be spent for the various types of goods. But Army has discontinued giving out such information because it lets foreign powers know too well the extent and nature of our preparations. They are not worried about textile information leaks, but the order is general.

The Army has just bought $27,234,460 worth of uniform cloth from about 60 manufacturers, the country's largest Service clothing transaction, enough to make 1,522,000 uniforms. These orders followed proposals by the Army to buy

★ ★ ★

THE FRONT COVER

The photograph on the front cover of this month's issue shows a parachute loft. Like a suit of clothes, a parachute has to be hung up every so often to get the wrinkles out of it, or it will wear out, so at every major airbase, the Army has a high room like this—a parachute loft. Periodically, the parachutes are strung up so that wrinkles and folds will hang out, and to re-vitalize the silk after the pressure of its packing. Inspectors check the fabric for dirt, tears, incipient rot, and skilled parachute riggers refold and pack the 'chutes.

500,000,000 yd. of elastique, 18 oz.; 4,000,000 yd. of melton overcoating, 30-32 oz.; 1,500,000 yd. of worsted shirting, 10½ oz.; and 500,000 woolen blankets, 3¾ lb.

Such orders are seen as preparation for large mobilization, when the fact is considered that the entire clothing of the present standing army for a year costs only about $15,000,000. That is at the rate of $60 to $80 per man. The Quartermaster, testifying before appropriations committees, urged Congress to furnish money to buy $20,000,000 worth of woolen cloth, which he said would outfit 1,000,000. He added that $40,000,000 worth *should* be bought, to supply each man with two wool uniforms during the first six months.

Army had on hand, before these orders, enough cloth to carry it through 1941, without personnel expansion. Congress authorized a 75% "carry-over" (reserve) instead of the usual 50%. So part of the new purchases must be regarded as carry-over. The Quartermaster would like to raise the carry-over to 100%, and probably will succeed in doing so, if time permits before an emergency arises.

Army has on hand 1,200,000 yd. of 20 oz. melton which is suitable for slacks and coats. This would supply about 300,000 men with one uniform apiece. Overcoats take 32 oz. melton. To overcoat 500,000 men would require 1,700,000 yd. of goods at a cost of about $3,700,000. To make up the goods would cost an additional $3,000,000. The Quartermaster said that for an Army of 1,000,000 men we should have on hand not only the clothing for initial wear, but the amount they would wear out while more was being produced. This would cost $40,000,000 for cloth alone.

During an enlistment period of three years, a soldier gets about four wool uniforms and five cotton ones. This is on garrison duty. In the field, in action, he might wear out more than twice as many. It is hard to predict the need for wool as compared with cotton. In Hawaii and the Philippines, the men have no wool clothes at all. In parts of South America they would use all cotton, in other parts wool and cotton. It all depends upon where your war is. An attack on Alaska would create a vastly different outfitting problem. Clothing for a soldier there costs twice as much. Because of possibilities, as between frigid and torrid zones, unused but necessary reserves create expense.

Some home-made estimates can be derived from the rule of thumb that 17 lb. of cotton goods and 19 lb. of wool go into the making of a soldier's outfit, including blankets. One set of equipment for a million men would take about two days of the nation's normal cotton consumption, and one month of wool. Consumption of cotton for webbing, duck and other goods would be additional.

Here are samples of many of the textiles which go toward outfitting a soldier

Even with the present purchases of blankets, the Army will still be short. The Quartermaster General says he has only about 200,000 not in use by troops. Ten years ago, 2,000,000 war surplus blankets were in storage, but they were issued to the CCC, which incidentally has "graduated" some 2,000,000 boys with good basic training for service. The QM says he must buy 2,500,000 wool blankets right away.

Quartermaster Corps will immediately request bids on 5,000,000 yd. of 18 oz. serge for 1,523,322 uniforms; 4,000,000 yd. 30-32 oz. melton for 1,006,112 overcoats; 1,500,000 yd. 10½ oz. worsted shirting for 934,405 shirts; 500,000 woolen blankets, 3¾ lb. This is additional to the lots contracted for late in June.

Man-power that can be added to the Navy in a year or two will be quite unimportant as new business for the textile industry. Recent orders run like this: canvas, 76,000 yd.; drill, 1,650,000 yd.; sheeting, 880,000 yd.; cotton braid, 220,000 yd.; twill lining, 150,000 yd.; cotton tape, 1,560,000 yd. About 39,000 original clothing outfits will be needed this year. Emergency stocks purchases are confidential, but it is permissible to say that the biggest orders will be mattress covers, nainsook drawers, handkerchiefs, white hats, cotton socks, cotton undershirts. Plenty of white blankets are on hand.

REFERRING AGAIN to the Army, which has the real textile problem, those who have not done Government business will like to know that QM normally purchases textile products on a competitive basis. Procurement is through two supply depots. The Philadelphia Quartermaster Depot buys uniforms, blankets, underwear, sheets, and all textiles. The Jeffersonville (Ind.) QM Depot buys all equipment made of web, canvas, duck, etc.—such as gas masks, rifle bandoleers (slings), canteen covers, tents, tarpaulins, and the like. It is probable that the country would be divided, in case of extensive mobilization, into nine or ten regions with as many depots. The Philadelphia Depot has a "yardstick" cut-make-and-trim plant which is supposed to produce about 10% of uniforms, to keep a line on prices. It produces no textile fabrics.

A few important changes have been made in uniforms in recent years. Army has adopted the tropical worsted shirt. Partly because peg-top army breeches are so hard to make, they have been discontinued in favor of

Textile authorities to aid E. R. Stettinius of National Defense Commission: (left to right) Arthur Besse, president of National Assn. of Wool Mfrs.; C. A. Sweet of Wellington Sears Co.; Earle R. Stall, president of F. W. Poe Mfg. Co. Robert T. Stevens, president of J. P. Stevens & Co. and Dr. H. G. White of E. I. du Pont de Nemours & Co. are also members of this group; Mr. Stevens heads it up.

slacks, which any pants maker can produce. With the breeches went also the old wrap legging, which used up a lot of military temper, to say nothing of wool. Cavalry alone uses breeches. Yes, we still have cavalry; most of it is mechanized; but fighting in certain parts of these continents would necessarily be on horses. Chances are that jackets with zippers will replace army blouses for field wear. Due to extensive mechanization of Army, the need for overalls, jumpers, coveralls, will greatly increase. It is known that several new types of garments are being tested and probably still further uniform changes and additions will be made.

One of our Quartermaster sources on this article, who has spent years in a textile depot, offered a number of suggestions he thought would be helpful to textile manufacturers, although he said most wool manufacturers have contracted to the Government at one time or another. Anybody can be on the QM list to receive invitations to bid; but if he doesn't bid within a reasonable time he will be taken off. In general, samples are not required, as in the World War. Read the specifications carefully, he says; every word counts. Be conservative in amount contracted; limit yourself to what you can absolutely produce in the time given. Mail your bids in plenty of time for the opening. Bids are opened and publicly read by a representative of the contracting officer; awards are made by letter, but you will be wired collect, if you so request in your bid. Generally, resident inspectors will observe for the Government in contractors' plants. They have no power to accept or reject goods; that authority rests with highly trained personnel at the Depot. Philadelphia has one of the best textile laboratories in America. But the inspectors are useful; they will make tests at any point in your run, prevent rejections later on. This inspection covers all classes of textile products.

The above described procurement system is peace-time routine. One might think that this would be changed in emergency, but probably it won't be. It is true that a bill is now before Congress, which will authorize Army and Navy Secretaries to negotiate orders outside the bidding system. Undoubtedly the bill will pass. But the law probably will not be invoked on textiles, because they are so closely related to "commercial" practice. Almost any goods or garment plant can produce suitable supplies for the Services. Negotiation of contracts will be applied to production of intricate ordnance, airplane engines, and the like, where ability to produce is far more important, in emergency, than price.

Procurement of textiles does, however, come under emergency plans to the extent that it is integral with the Industrial Mobilization Plan. This plan, in case you don't know, was worked out by the Army and Navy jointly. In a word, it charts the capacity of thousands of plants which can produce war materials, provides for periodic inspection for any changes, and files with those plants dummy contracts for needed goods. A Munitions Board telegram, sent on "M Day," would turn the dummy contracts to real contracts and the wheels would start rolling. M-Day is mobilization day. Under this plan some 20,000 plants have been surveyed; permanent records are kept on 10,000; and it is said that all important textile plants are included.

UNDER THE HEAD of incidental intelligence: A great deal of re-worked wool could be applied to civilian use. It cannot be properly used in worsteds, and the Army hopes not to use much of it, despite pointed questions fired at officers by Congressional appropriations committeemen. Digressing for a moment to the perennial argument in Washington over proposed wool-labeling laws, one Army authority said in his opinion about 1% of total re-worked wool supply is actually better than 25% of the virgin wool supply. Blankets call for a higher grade of wool than clothing, but what would happen if we got up into the twenty millions again, nobody will say. In 1918, "everything went.

Men who had experience in World War textiles say wool standards now are much higher, meaning the specifications as to tensile strength, wearability, and color fastness. With reference to dyes they say we are practically free of the notorious troubles due to dependence on German dyes in the last war.

The most important change in cloth since the World War is the Army's shift from woolen to worsted goods, in the opinion of QM textile men. Before the war, uniform fabric was of woolen construction. The change has been gradual. The factors that go with this change are as much civil as military; they are recognized by all wool goods manufacturers, and need no discussion here.

In cotton goods, QM regards as the most important change since the last war that from the use of a carded yarn fabric to a combed yarn fabric for work clothes in a large part of the service. All veterans of the last war remember the two-piece denim work clothes—known as dungarees. Since then, with the growth of aviation, there has been the development of a one-piece garment known as a cover-all made of herringbone twill with combed warp. The tank forces and the truck forces also are using these and with the ever-increasing proportion of mechanized troops, this represents an important factor particularly so far as combed yarn spinners are concerned.

Another change of interest to cotton yarn spinners is the fact that, whereas for years the Army bought only flat-knit underwear, for the last few years it has been giving preference to rib knit goods. It is assumed here that manufacturers are increasing their purchases of combed yarn to meet Army preferences.

The services are always seeking new and better fabrics for changing conditions. As already indicated the Philadelphia Depot has an elaborate testing laboratory, which yields pointers toward improvements. Then too, both Army and Quartermaster receive a constant string of inventors and people with ideas. Most of these contributions are old stuff and worthless, but enough good ones come in to make the nuisance worth tolerating.

All uniform material is bought and held in storage by the Quartermaster, and allotted to successful bidders on

garments. This is done to insure uniform quality and color. It would be extremely difficult for QM inspectors to watch the variety of cloth that garments plants would procure themselves.

SPEAKING OF VARIETY, parachute cloth is a matter of increasing interest. This is the story. Number of 'chutes doesn't increase with pilots; it increases with airplanes. The President's much-publicized aircraft program cannot be realized for three or four years. Total civil and military plane expansion in the coming year might be 10,000 or 15,000. Counting spares, replacements, and surplus for possible emergency, the coming two-year demand for parachutes is conservatively estimated at between 150,000 and 200,000. These are grapevine figures; War Department makes no statements.

Of course, the Army is studying the question of parachute troops. Russia had them 10 years ago, but our Army seems to have passed up the tactic, thinking losses by gun-fire from the ground would be too great. Then the Germans showed how to jump from low-flying planes, leaving no time for shooting. In populous terrain it's probably a one-time trick; every square yard is guarded. But in the wide open spaces it might become standard practice. If we have 'chute troops, they will be infantry. Army officers smile when urged to admit that large numbers will ride the silken flowers. But none will swear that it can't happen.

Nobody denies that silk is the best parachute material. But for years, Army and Navy have worked on cotton, achieved a satisfactory construction around 100 squares. It makes a bulky pack, and it's a little heavy, but it wouldn't matter much if silk were stopped entirely. Both Services and the Bureau of Standards are working on synthetics, including Nylon. One of the parachute companies recently received a hundred odd yards of Nylon for experimental work. The general opinion among flying authorities is that synthetics will soon be as good as silk. 'Chutes for dropping equipment after the man, are made of coarser stuff. Forest fire fighters get their tools and rations on burlap chutes.

Incidentally Army men confirm the theory that a long war simply shifts textile production, for the men involved, from civies to uniforms. This tends to be a mere change of production, not an increase. But the initial out-fitting is additional. And if the troops go into action, they wear out clothes several times as fast as they do at home. If the mobilization is short, say a year or two, the increased production is much more pronounced, proportionately. Furthermore, as in the last war, supplies are laid in for an unknown "duration." In general, when all's said and done, textile production for a democratic army is nearly all new business.

THE WRITER reports this investigation with the feeling that he may not have asked the one burning question; or, that he did ask it, and it was one of many that the authorities didn't answer. He probed the War Department officers and Defense Commission men on the wool question, thinking they might admit that wool is *the* war problem they have in mind.

There *was* a wool problem in the World War, as every middle-aged person knows. As already stated, wool ran low and everything including the cat's whiskers went into blankets. From September, 1918, to June, 1919, 246,000,000 lb. of clean wool were procured by the Government of which 15,000,000 lb. were allotted to civil use. It took 100,000,000 lb. to meet the initial demands of the huge army. Everybody seemed to be cleaned out, but when the war ended, Australia and New Zealand, possessions of Great Britain, an ally, had one billion pounds of wool in their possession. There *was* a wool problem, then, but if another one is seriously foreseen, nobody is talking about it—for publication.

Reports on the War Department's interest in uniform cloth and worsted shirtings mixed with rayon are not official but are tacitly confirmed. Officers say personally they expect no production orders for such mixtures immediately; that their aim is to have a standardized substitute ready in case of extensive mobilization. The Navy is mentioned as interested with the Army.

One key question you might well ask: Is the textile program set up in the Defense Commission because this government thinks it might have to clothe foreign armies and peoples who may succeed in prolonging war against their enemies? But of course no one in authority would answer it.

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Other Washington News

FARMERS GOT THEIR $212,000,000 for parity payments, in the regular 1941 Agriculture appropriation, which has been signed by the President. The measure, which totals over $900,000,000, also provides $500,000,000 for allotments to farmers under the soil conservation program, and authorizes RFC to lend $50,000,000 to the farm security Administration for farm tenancy. Parity payments are made on major crops, including cotton.

MONITEAU MILLS, INC., of California, Mo., has obtained a stay of the 36c wool wage minimum order which took effect June 18. It was granted by a U. S. Court of Appeals in the Eighth Circuit at St. Louis. Company posted $10,000 bond to guarantee payment of the minimum wage if the action fails. The stay applies only to the petitioner; there are no intervenors. Sources in the Wage-Hour Division said representatives of the company testified it paid less than 36c to some workers, and asks the court to affirm its right to do so.

There is no "bottleneck" chargeable to learner and apprentice practices of the Wage-Hour Division, Col. Philip B. Fleming, Administrator, said in a recent statement. Employers had charged that wage-hour restrictions are slowing production for defense. Col. Fleming said that only 87 applications for apprentice certificates have been filed since Oct. 24, 1938, and all have been approved. This is because most apprenticeable trades have starting rates higher than 30c per hour, the minimum. Of 1650 applications for learners certificates, 1400 have been issued. Final amendment of the order concerning textile learners was given hearing June 22. Dr. Claudius T. Murchison, president of the Cotton-Textile Institute, appeared to offer suggestions.

Industry Committee No. 12 for the carpet and rug industry met in executive session at 10 a.m. July 9 in the Hutchins Building, Washington, D. C. Arthur D. Hill of Boston was scheduled to preside.

Several industries, including textiles, have appeared before the Wage-Hour Administrator in testimony on the definitions of administrative, professional, and executive jobs, which are exempt from the hours provisions. Still a few more are to appear. In a matter of weeks, it is hoped here, the Administrator will be able to define most of the salaried jobs so employers will know for sure whether they are covered by the law, or not. At present, through uncertainty, they may find themselves innocently liable for restitution of back wages; and they have the irksome job of keeping time records on many employees who probably are exempt.

AMENDMENT TO THE WAGNER Act this year is possible, but not considered probable. The House passed the Smith bill, which would set up a quasi-judicial board whose decisions would be subject to review by the courts. Provides that the board must follow court rules of evidence; limits back pay awards to one year. Senate labor committee still hasn't held hearings on some phases of the measure. It's very easy for the Senate to block a bill.

Those Lost Souls Cannot Even Ask

Response to Red Cross plea, just started, shows America's heart is touched

By DOUGLAS G. WOOLF

EACH DAY, the need for help for the millions of civilian refugees becomes more apparent. The cry of anguish which arises from those homeless ones is all the more poignant because it is an inarticulate one. They have no medium of expression. They cannot even ask. They can only suffer.

That cry has gone to the hearts of Americans. More important still, it is loosening their purse-strings. But this is only the beginning.

Famine and disease are right on the heels of the marauding armies of Hitler, and the carrion troops of Mussolini. Their eventual toll, next winter and beyond, will make even the destruction caused by that bandit and that vulture seem unimportant by comparison. That famine and pestilence will also invade the countries of the invaders is no cause for elation. On the contrary, the victims are all human beings, whether they be the poor deluded subjects of power-crazed dictators, or the citizens of erstwhile free nations, whose governments and armies were not strong enough to withstand the onslaught.

Even if civilization dies, people live on—after a fashion. They need food, clothing and shelter.

The response to the plea for contributions to the Red Cross, which we published in these columns last month, has been a heartening one. The first answer came from textile associations who passed on that plea to their members, through letters, through their regular bulletins, and through other media. Their effort has been a noble one.

It is still too early to record the action taken by many mills, who are now just organizing to solicit contributions from their employees. We invite them to advise us when their appeal has been launched, so that they may be entered on our Textile Honor Roll—but more important so that they may serve as an example to others.

THE FOLLOWING TEXTILE ASSOCIATIONS cooperated by passing word along to their members, usually through their bulletin or other form of newsletter:

American Cotton Manufacturers Association

Association of Cotton Textile Merchants of New York

Red Cross War Poster

Cotton Manufacturers Association of Georgia

Cotton Manufacturers Association of South Carolina

National Association of Finishers of Textile Fabrics

National Association of Hosiery Manufacturers

National Federation of Textiles

National Rayon Weavers Association

Southern Combed Yarn Spinners Association

Southern Hosiery Manufacturers Association

Textile Fabrics Association

Underwear Institute

The following mills and other organizations have already been heard from as having initiated the collection of funds from their employees and through their own company contributions. We anticipate a much longer list next time.

Cooper Wells & Co., St. Josephs, Mich.

Fulton Bag & Cotton Mill, Atlanta, Ga.

Green River Mills, Inc., Tuxedo, N. C.

Knitting Department, Wiscassett Mills, Albemarle, N. C.

Montgomery Knitting Co., Summerville, Ga.

Southern Combed Yarn Spinners Association, Gastonia, N. C. (Office staff)

Suncook Mills, Suncook, N. H.

Textile World, New York.

United States Rubber Co., Stark Mills, Hogansville, Ga.

United States Rubber Co., Shelbyville Mills, Shelbyville, Tenn.

United States Rubber Co., Fisk Cord Mills, New Bedford, Mass.

United States Rubber Co., Winnsboro Mills, Winnsboro, S. C.

Wilkes Hosiery Mills Co., North Wilkesboro, N. C.

THE FOLLOWING LETTER was received from Walter A. Sinclair, director of public information, New York Chapter of the Red Cross:

"Your splendid editorial for the June issue of the TEXTILE WORLD is very welcome to the war relief fund raising campaign. We thank you for your fine cooperation and are sure the plan you set forth will bring valuable aid to the war sufferers."

An autobiography of a genius

as told to

MARJORIE BELLE CLARK

Editor's Note: **Every little while a manuscript comes over our desk which is different. By many of the rules of the profession, it ought to be turned down. By all of the facts that we know about reader-interest, it should be accepted—and played up. . . . This is such a manuscript. An editor who welcomes Jack Card to his columns, although sometimes reluctantly, has no sales resistance against "I, Rayon. . . . ." In fact we are constantly on a still hunt for more contributors who can write this way. . . . . Line forms on the left.**

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I, RAYON, am an illegitimate child. My father is generally thought to be a Frenchman by the name of Chardonnet, but I have frequently been claimed by various other gentlemen, and I myself am not at all sure. The identity of my mother is disguised with even greater confusion. It has been rumored that "science," "invention," "chemistry" and "sericulture" have all avowed to be my mother—so also has "necessity." My birthplace has been variously reported to be England, France and/or Germany.

Perhaps I am 60 years old. I might be 65, or even older. The fact of my birth is buried deep in some inventor's papers but I haven't yet dug them up. I was christened four different times, once in 1884, once in 1890, and once in 1892 and then again after that, but on none of these occasions was I given the name of Rayon. In fact, it was many years before my name was actually given me.

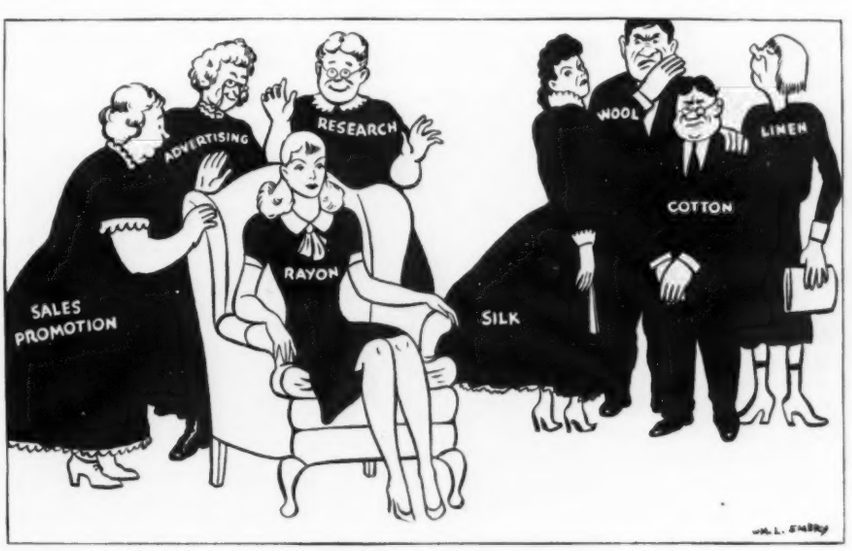
MY CHILDHOOD: As a youngster in Europe, I was a weakling and nearly died several times. I was tossed about from pillar to post by all my relatives and was variously accused of being not as beautiful as my step-sister Silk, or as warm as my step-brother Wool, or as practical as first-cousins Cotton and Linen. It just never seemed to matter much that my education and upbringing were all wrong and ought to have been more individualized. However, they weren't, so I had a tough time getting along while the rest of the family went about merrily and confidently doing their daily tasks.

Because I was sickly and considered a problem child, I was nurtured by Aunt Research who carefully strived to find out what to feed me and how to bring me up. She tried a lot of test-tube concoctions, and hundreds of setting-up exercises, in her efforts to strengthen my muscles. I really did improve a lot.

At last, Aunt Research brought me to America and, as it turned out, a change of climate was exactly what I needed. By the time tassels and trimmings came into vogue around 1910, I was right in there with my little oar and first thing you know, I was curlycueing myself all over the fronts of fashionable ladies' bosoms. Just as I was learning to crawl and turn somersaults, I was taken up for Tricollette—that's a machine-knitted fabric that slinks itself into droopy, form-fitting gowns. When "Tricky" got to be so popular that literally "all the gals" were wearing me, I got pretty conceited and decided that now was the time for me to show my stuff. I must have been too cocky for I'd no more than decided that I was a success than the family again smacked me down and told me to stay put, that I was still an ugly-duckling problem-child and needed to grow up some more. Aunt Research was the kindest one in the bunch.

One day Cousin Cotton came along and said he needed me for "baronet satin." I'd never heard about baronet satin but neither had anyone else, so it was kind of a surprise to everybody when I became the hit of the show instead of the second fiddle which Cousin Cotton thought I'd be.

MY TEENS: I guess all my inferiority complexes were what made people snub me—even after I was such a hit in Tricollette and baronet satin. But the beating I took right after the First World War was enough to keep me black and blue for the rest of my life. The trouble was that I had never really had a name—except one which was sort of reflected glory from my beautiful step-sister, Silk. It was a very bad name



Three adoring aunts made me what I am today. I've been handicapped somewhat by jealous relatives—half-sister silk, half-brother wool and cousins cotton and linen

—"Artificial Silk"—(sometimes, "Art Silk," for short). Well, along about 1920—I was growing pretty fast; Aunt Research took me to live with two other Aunts—Advertising and Sales Promotion. Like the rest of the Textile family they weren't very much interested in me either. That is, they weren't for about five or six years—but oh boy! when they started to bring me out around 1928—oh, I'm getting ahead of myself—that comes later.

Anyway, when I first lived with all three Aunts together, they figured that maybe their obstreperous charge ought to be given some sort of a name of her own because the family and all the neighbors were complaining so much. The Consumers and the Storekeepers, to say nothing of Silk, were loudly proclaiming that "that brat oughta be disciplined." I guess I was all over the place—and they had a tough time trying to get me home because I didn't have a name. That's when my name became "Rayon." It's a pretty name and I've always liked it, but golly, after I got it everybody began to bawl me out for my adolescent antics. I couldn't help enjoying that newly-found freedom and maybe I was kinda fresh. I was a genius—everybody said so—and geniuses are just naturally "different"—they don't do what other folks do. It got so that no matter what happened or who did it, if a prank had been pulled I was always blamed. In spite of my naughtiness, I think the Consumers liked me and I'm sure they did when I was a good girl. After all, I was gay and bright and happy, fun to have around and better looking every day.

MY ADULTHOOD: I finally made my debut, socially, around 1930. My picture began to appear in the magazines and papers and, because I was a rising debutante, invitations to go places simply poured in. It was all due to the combined efforts of my three Aunts—Research, Advertising and Sales Promotion. They worked like the dickens to see that I was accepted by the right people and attended all the important functions of the social and business worlds.

Yes, since 1930, I've been getting over my complexes and I'm sure I have behaved much better since I've grown up. I've simply been rushed to death and, at times, have felt as though I just couldn't go on. I don't know how I've found time to appear in taffetas—which are certainly taken everywhere today—and in stacks of different crepes and satins, to say nothing of printed sheers and "alpacas." And, of course, my most popular characterization at the moment is "Spun" Rayon. As "Spun" I've appeared in numerous world-wide successes such as "hopsacking," "challisweaves" and "much-like-shantungs."

It's true that I've learned to be a lady. I don't "act up" like I used to. Still gay and happy about the whole thing, I'm much better now about taking baths, for instance, and keeping my shape.

I guess most every one likes me now—the younger girls, particularly. Madam Schiaparelli frequently invites me to her functions. Mr. and Mrs. Consumer and the kids all say they like to have me around—that I bear knowing and wear well. And the Storekeepers have ceased poking fun at me; rather, I feel admiring glances from them. A lot of people may have thought that I was a "mental case" because of my being such a non-conformist. They realize now, I hope, that geniuses are geniuses because they aren't like other people, and regular, ordinary rules and standards aren't a whit of good in trying to understand them.

As all autobiographies must, my little piece will have to stop in the middle of a sentence—for I expect to be a going concern for a long, long time ——.

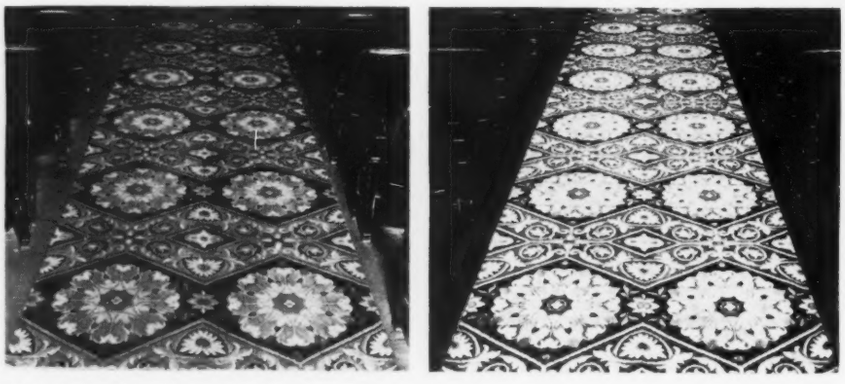
Fluorescent Carpet

Acts as guide in the dark

CARPETS colored with fluorescent dyes have been introduced by Alexander Smith & Sons Carpet Co. Immediate use for which this material is being offered is in foyer, aisles or stairs of theaters. When this carpeting is subjected to the invisible rays of ultra-violet lamps it glows brightly in the dark and forms a safe pathway through an otherwise darkened theater. For motion picture theaters it has particular application since the glow from the carpet does not blind the eyes in any way, nor affect the visibility of the picture on the screen to the audience. It does away with aisle lights where those are not required by law. It has other uses where guidance or decoration in the dark are required.

Alexander Smith has introduced four patterns in this new carpet, all of the Crestwood quality. Soiling does not appreciably affect the response of the carpet to ultra-violet rays, nor does wear. The increased cost of the fluorescent carpet over ordinary carpet of similar quality is about 75c per square yard. It is not always desirable to fluoresce all the colors in a pattern and in the lines now offered there are areas made of regular colors which appear dark under ultra-violet rays. Commercial application has been made feasible by the newly introduced, efficient and reasonably priced mercury lamps which give diffused radiation of the longer wave ultra-violet which is not injurious to the skin or eyes. The range of the 100- and 250-watt lamps now made by Westinghouse and General Electric is about 100 ft.; it is said that the life of these lamps is at least 1,000 hours. Theaters using the fluorescent carpet may supplement it with fluorescent exit signs, etc.

The application of fluorescent dyestuffs for this use is patented and is the exclusive property of Alexander Smith & Sons Carpet Co. It is planned however, to license other companies. The Kennedy Theatre in Washington, D. C., among others has been equipped with this carpet.



The carpet that shows you to your seat—photo at left shows how the fluorescent carpet appears with the regular theater lights on, while that at the right shows the same carpet glowing brightly under the influence of invisible "black light"

Gastonia Goes to Town for Cotton

Third annual festival is its best—Style show and parade among features

THE ANNUAL COTTON FESTIVAL at Gastonia, N. C., has now an established place in the textile industry's promotional program—and this year's event, held June 10-15, was the biggest and best thus far. For a week, the citizens of that combed yarn center had their attention constantly centered on the commodity which supplies most of them with a living: cotton.

The 1940 King and Queen of Cotton were as textile in their background as the city of Gastonia is itself. The Queen was Miss Freida Myers, daughter of Mr. and Mrs. A. G. Myers. Mr. Myers is receiver of Textiles, Inc., member of the Board of Directors of Southern Combed Yarn Spinners Association, president of the North Carolina Cotton Manufacturers Association, and president of the Citizens National Bank. The King was Harold Mercer, general manager of the Firestone Cotton Mills, Inc.

The coronation of the royal pair was scheduled for Wednesday evening of Festival Week, and Dr. Claudius T. Murchison, president of the Cotton-Textile Institute, was on hand to officiate. However, an unkind storm—the only untoward feature of the festival—washed out that event. As a substitute, the King and Queen were crowned just before the Cotton Ball on Friday night. Fortunately, the storm did not interfere with the street parade on Wednesday afternoon, nor with the reception and banquet held at the Gaston Country Club that evening.

Of unusual beauty and interest was the cotton style show presented Tuesday evening by the Cotton-Textile Institute, under the direction of Miss Catherine Cleveland. The Merrimack Mfg. Co., through Adele Benjamin, in charge of styling and promotion, cooperated with the Institute by sending down a supplementary show, recording the remarkable style progress made in velveteens and corduroys. The combination made one of the best style-shows this reporter has ever attended.

And for those who don't like style shows or coronations, there were other attractions: an open golf tournament; a street ball, correctly advertised as "mammoth"; a tennis tournament; a baseball game; a "coaster car" race—in fact, something for everybody. Particular credit goes to Junior Chamber of Commerce which sponsored the event.

One of the floats—that of the Firestone Cotton Mills, featuring an immense tire and three pretty girls

THE ROYAL PAIR: The King and Queen of Cotton at the Gastonia Festival. In real life, Harold Mercer and Miss Freida Myers

A portion of the street parade showing floats and crowds 5 and 6 persons deep along the street

"A Practical Convention"

Best describes Blowing Rock meeting of the Southern Textile Association

A "PRACTICAL CONVENTION for practical men" describes in a nutshell the annual convention of the Southern Textile Association, held June 7 and 8 at Blowing Rock, N. C. The few addresses on the program were streamlined and full of meat. No motion was lost at the business session. Golf and "indoor sports" were the major order of the day.

P. B. Parks, Jr., superintendent of Erwin (N. C.) Cotton Mills Co., president of the association, in one of the shortest and fruitiest president's addresses on record, lost no time in making his point: "There is no justification for the continued operation of a plant which cannot show a reasonable profit over a period of time! It is your duty and mine to see that our particular plant is profitable in so far as it lies within our power to do so."

Mr. Parks also pointed out that operating executives have changed as much as physical character of the plant in recent years. The early supervisor was the biggest man on the job who held sway by the brawn of his good right arm. A later era found the supervisor more literate, more experienced and somewhat less belligerent. Without formal training, this man was master of his machine and did a swell job of making things hum. He started a tradition.

"Being valuable today involves infinitely more than it did even a short decade ago," asserted Mr. Parks. "Today's competition, born of a shrunken market and an over-expanded industry, demands that we combine and coordinate the proper manpower, machinery and raw materials to produce textile goods at a profit, in fairness to the employees, and at a cost within means of the buying public."

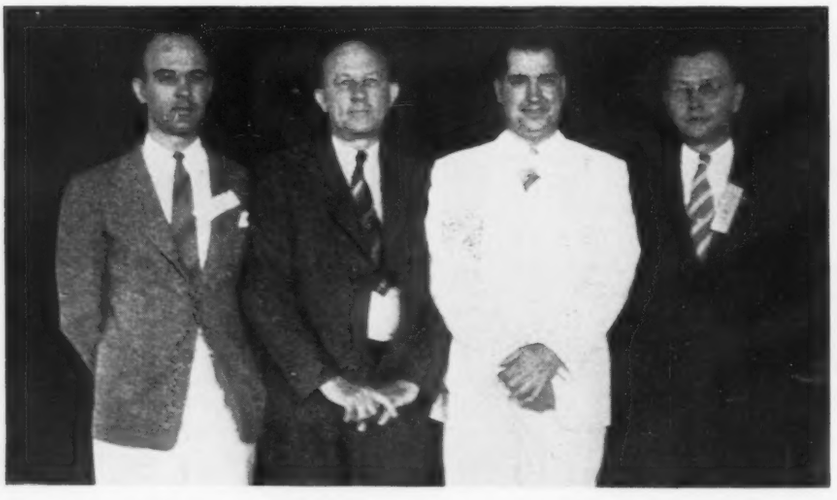
Dr. A. E. Spence, of Duke University, addressed the group on Americanism. He warned that 30% of the children attending school today are getting their religion from the State instead of from the Church, which is a dangerous trend and could possibly lead to a dictatorship. He also charged American pacifism with the state of the world today.

Dr. R. J. Cheatham, chief of the Cotton Processing Division of the Southern Regional Research Laboratory, recently established by the U. S. Dept. of Agriculture at New Orleans, La., analyzed the purposes and scope of the proposed research program on lint cotton. Research will be divided among three main divisions, which have been given the names of (1) "Fiber Properties and Structure," (2) "Cotton Processing" and (3) "Cotton Chemical Finishing."

Three in a row—D. O. Carpenter, Kendall Co., Newberry, S. C.; C. E. Bailes, McCleod Co., Greensboro, N. C.; Wilton Todd, Kendall Co., Newberry

J. E. Reeves, superintendent, Mills Mill No. 2, Woodruff, S. C., and J. C. Daniel, Clifton (S.C.) Mfg. Co.

Louis Batson, Southern Shuttles, Inc., telling a fish story to Luke J. Castille, Keever Mill Starch Co. Mr. Castille caught a bigger one



Officers of the Southern Textile Association, left to right, Robert T. Stutts, chairman of the board of governors, Frank D. Lockman, newly-elected president, P. B. Parks, Jr., retiring president, and J. O. Thomas, vice-president. Other officers not in the picture include Marshall Dilling, executive secretary, and Ellis Royal, secretary and treasurer.

Among the golfers were, left to right, W. W. Griffin, Southern Franklin Process Co.; D. L. Friday, sales manager, Cocker Machine & Foundry Co.; Robert Quick, Union Mills Co.

Left to right, Walter Brice, Draper Corp.; Coleman Daniels, Clifton Mfg. Co.; Stanley Converse, Clifton Mfg. Co.; Bob Brice, Draper Corp.

Tommie Scaffe, Gulf Oil Co.; B. B. Peacock, Whitin Machine Works; N. Winroth, Union-Buffalo Mills Co.; F. E. Bozeman, Whitin Machine Works

These divisions will operate as separate units, but their activities will be closely coordinated.

Research in fiber properties and structure will be "fundamental," since the usefulness of cotton is directly dependent upon its physical and chemical properties and structure. Although theoretical, scientists will constantly seek applications for the knowledge gained here, insisted Dr. Cheatham.

The Cotton Processing Division will be one of the large departments of the laboratory and it will work on the development of new and improved cotton products and cotton machinery, he continued. The major part of the attention will be given to the development of new products since this is a direct method of increasing consumption. Research will not be confined wholly to the development of present well-known types of cotton products, but will embrace products such as unspun cotton fiber bonded with adhesives, products formed by the lamination of unspun fiber with yarn and fabric, etc. Research on cotton processing machinery will have as its aim the lowering of manufacturing costs and improvement of the quality of cotton products.

After inviting members of the cotton industry to visit the laboratory, Dr. Cheatham introduced Dr. Walter Scott, head of the Cotton Chemical & Finishing Division, who spoke briefly of the work proposed in his field. Some of the properties which influence the demand for textiles, and which may be imparted or enhanced by chemical finishes, he said, are color, luster, softness, crispness, resilience, heat-resistance, moisture absorption, waterproofness, fireproofness and mildew proofness. Work will be carried out on all of these properties applicable to fabrics for clothing and household uses. Industrial fabrics will also be studied for special properties.

The textile industry in South America was described at the Saturday session by William G. Ashmore, southern editor of TEXTILE WORLD, who visited several South American countries last year. He said in part:

"In considering the textile industries of South America, it is necessary to study the continent carefully as the areas are vast and each country presents many special problems. The size and condition of the textile mills in the various countries are more important than the number of plants given in the trade lists. For example, of several hundred textile mills listed in Argentina, there are only about 20 cotton mills of real importance. Brazil has perhaps 500 textile mills of all kinds, 40% of the total in South America. It is estimated that 70% of the Brazilian machinery is obsolete, in contrast to comparatively new mills and modern machines in Argentina. The majority of productive equipment in most countries is British although American machinery is increasing in popularity."

The main business opportunity for Americans in South America, according to Mr. Ashmore, is in the field of textile machinery, new and used, rather than in basic textile manufacturing. Even though American exports of all kinds increased 54% during the first six months after the outbreak of the European War, he warned that "we shall find it extremely difficult to maintain this additional business after hostilities cease because of trade agreements and barter plans which inevitably will be more vicious than any we have ever seen before."

[Details of Mr. Ashmore's South American observations, upon which his address before the S.T.A. was based, appeared in the December, 1939, and the January and February, 1940, issues of TEXTILE WORLD].

The second address on the Saturday morning session was an illustrated lecture on safety by F. S. Kimball, of Liberty Mutual Insurance Co., Charlotte, N. C. Stressing the importance of correct habits, he said that instructions alone are not sufficient to train employees. The supervisor should show him the right way to do a job, observe him in action, and occasionally check up to see that he is continuing to perform his duties properly. Mr. Kimball, by means of various mechanical devices, illustrated every-day motions which often result in injury if improperly carried out. He estimated that 27,000,000 disabling accidents in industry have been prevented by the work of the National Safety Council.

Frank D. Lockman, superintendent of Monarch Mills, Lockhart, S. C., was elected to serve as president for the next year. J. O. Thomas, personnel manager, Marshall Field & Co., Spray, N. C., succeeded him as vice-president. Robert T. Stutts, superintendent of Woodside Cotton Mills Co., Simpsonville, S. C., became chairman of the board of governors; Marshall Dilling, superintendent of Smyre Mfg. Co., Gastonia, N. C., was re-elected executive secretary. New members of the board of governors included Walter Rogers, V. E. McDowell, Henry Woods, Joe Cobb, Smith Crow and S. S. Holt.

Winners of golf prizes in the mill men's tournament were W. N. Miley, low gross, and P. B. Parks, Jr., low net. Bill Terrell took low gross in the associate members' division; E. V. Wilson, low net. S. S. Holt won both the horseshoe and setback tournaments.

An innovation at the annual banquet was a bingo game organized by Secretary Ellis Royal, in place of the usual banquet speaker. At the Associate Members Division banquet, Ernest Eaddy, of Spartanburg, S. C., was elected chairman for next year; John Turner, of Atlanta, became vice-chairman.

Carding Low-Grade Woolen Stocks

Calls for readjusted settings and speeds; close attention to detail

By JOHN R. DUNN

WOOLEN STOCKS of surprisingly low grade can be carded successfully if care is taken to see that the card is properly set and its speed adjusted to the material. No definite rule can be given for speeds or settings, as this will depend on the stock to be carded and the card to be used. Close observation is the best method of determining whether the various parts are working correctly.

If a large quantity of stock is to be carded, it will be worth while to slow down the cylinders of the card. For example, a 60-in. cylinder traveling at a speed of 72 r.p.m. could be slowed down to 65 r.p.m. This would result in a decided decrease in waste and a great improvement in the roving produced.

Special care must be given to operation of the first breaker. If the stock is not thoroughly opened at this point, it cannot be removed evenly by the leader from the feed rolls of the second breaker. Uneven roving will result.

Speeds of doffers and workers should be so adjusted that they carry an even sheet of stock. This is essential on the second breaker and finisher, to insure even roving. Rotation of workers on these cards can be reversed with success. This will not only increase the amount of carding, but will eliminate possibility of the workers collecting flyings and causing the ends of roving on the sides of the cards to be uneven.

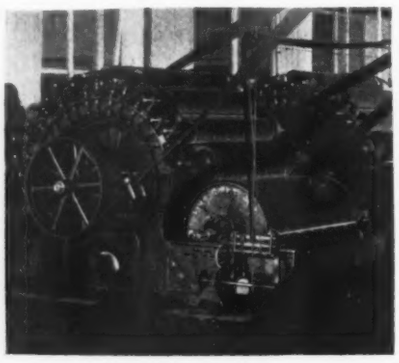
The speed of the fancy and its setting must be determined by its construction and the size of the wire with which it is covered. The fancy's surface speed must be well in excess of that of the cylinder, and the setting fairly deep. This is so that the stock will be well raised to the points of the cylinder wire, and to prevent the cylinder from filling up with short fibers. If the fancy throws out a great amount of flyings, a roll of small diameter covered with card clothing can be set under and close to the cylinder. This roll can be run from a worker; the points of the wire should so travel that the cylinder will keep it clean. This roll will break the draft and place back on the cylinder the fibers it collects.

The cylinders must have smooth surfaces, but the wire must not be sharper than that of the workers and doffers; otherwise it will carry the stock past the workers, preventing them from doing a full share of the carding; and past the doffers, causing an increased amount of waste to accumulate under the card.

ONE OF THE DIFFICULTIES with which carders have to contend in the carding of low-grade stocks is the breaking of the web in the side and overhead drawings. The speed of the web should be so slowed down that it is full and even, and the roll under the comb should be so lowered that the web is well twisted. If this should fail to overcome the trouble, a sure method is to place a cone of fine singles cotton yarn at the end of the comb opposite the tube, and feed the end of the yarn into the web. Care should be taken that it is fed directly into the end; if it is fed in at an angle, it will wind around the web, instead of the web forming around it. This will cause the web to kink and contract, and will use an unnecessary amount of yarn. The size of the cotton yarn to be used should be determined by its strength. It should be strong enough to carry the web, but not so strong as to cause the feed to be pulled in at the feed rolls. The yarn should be of a color that will blend with the stock being carded.

Low-grade stocks should condense in round, even roving provided the fibers are well blended and are not too coarse for the counts to which they are to be spun.

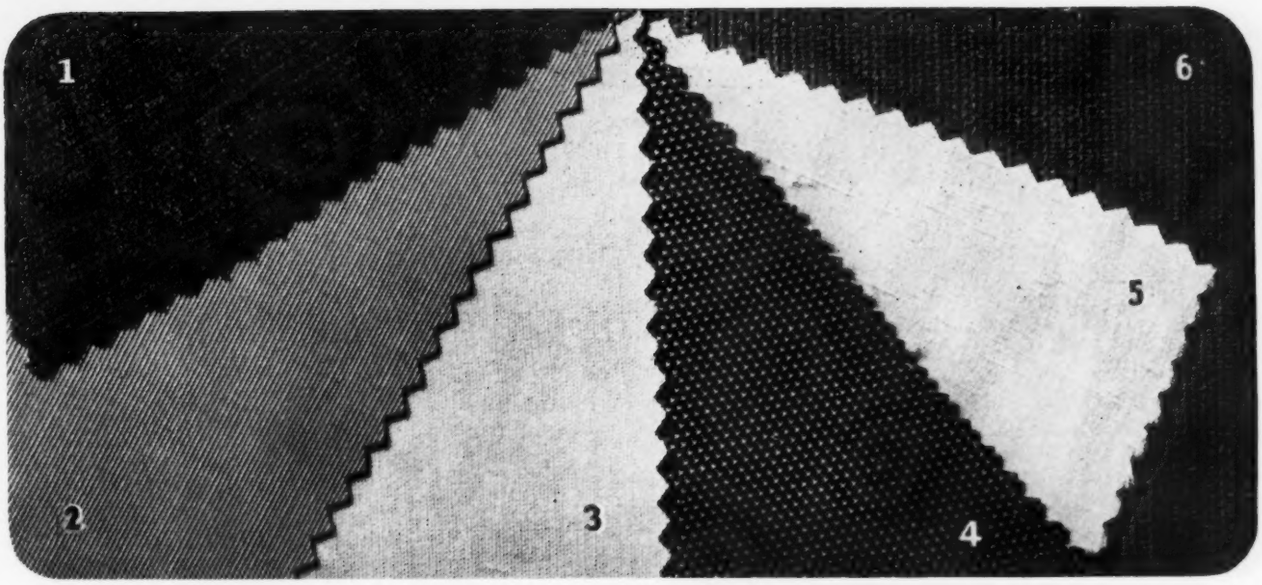
If ring doffers are used, trouble may be experienced due to excess stock going to the bottom doffer, thus causing the roving from this doffer to be heavy. Resetting the doffers, slowing down the speed of the top doffer, and/or so increasing the speed of the finisher fancy as to raise the stock to the top doffer frequently will remove the difficulty. If these measures do not suffice, the rings may be reversed, placing the wide rings of the bottom doffer in the top and the narrow rings at the bottom. Another method that sometimes gives satisfactory results is to decrease the thickness of the packings between the top rings and increase the thickness of the packings between the bottom rings.



WITH TAPE CONDENSERS the web from the finisher doffer to the rolls of the tapes should be given special attention. A small roll covered with fancy wire and run at low speed can be set slightly into the doffer so that the doffer will be kept clean of burrs, etc. This will also keep the points of the doffer wire clear, so that they will hold the stock until it reaches the doffer comb, thus preventing the web from sagging away from the comb. As trouble may be experienced if air currents or drafts are allowed to come in contact with the finisher web, suitable guards should be set up to protect the web. The tapes of the condenser should be checked to make sure they are evenly tensioned, and they should be oiled frequently.

As low-grade stock has very little elasticity, drafting places should be watched with care; if the roving is to have the required strength, no strain must occur at these points. Further, since much of the strength of roving made from such stocks depends upon the rub, an additional amount should be placed into the roving.

The amount of production taken from a card must depend on the strength and quality of the roving it makes. A good method is to slow the condenser doffers well down at first; then, after the card has been thoroughly gone over to make sure all parts are working properly, speed may be increased as the strength of the roving and yarn warrants. Owing to the increased amount of rub and the shortness of the fibers, draft in the spinning room should be reduced somewhat, and the roving made lighter.



Spring 1941 . . . in Rayons

By CARL C. MATTMAN, JR.
and
THOMAS G. PENNINGTON
A. M. Tenney Associates, Inc.

IN RAYON FABRICS for the 1941 spring and summer seasons crisp sheers, poplins, sharkskins, shantungs, and lenos show promise of being important. It is possible thus to paint the future with broad, inclusive strokes. To get down to cases is something else again. Prophecy, hazardous even in normal times, becomes considerably more complicated in times like these.

In many parts of the world there is war. This has numerous effects: Paris, for instance, has been removed, at least for the time being, from its position of preeminence in initiating styles. This, incidentally, has served to place more importance on origination of styles in Hollywood, Florida, and other resort points up the East coast as far as Maine.

Then, there is the recently inaugurated national-defense program, still so new that little of its possible effect on our industry is known. Further, there remain the well-known vicissitudes of style, which may do any one of a number of things during the fall and winter months ahead.

But, as has been stated, it is possible even at this early date to perceive the broad outlines of what rayons for 1941 will probably be like. The dress and play clothes fabrics reproduced herewith, and the construction data given, are not intended to be used *verbatim* in planning spring lines. But they should be of value in suggesting lines of thought which stylists and designers may well pursue.

Acetate-warps, with their natural bending ability and non-shrinking qualities, seem to be increasing in popularity. In filling yarns, 50–50 acetate and viscose rayon blends, as well as all-viscose rayons, hold a similar position.

Colors in the new season will probably be more brilliant than in the recent past, with solids rather than cross-dyes in the forefront. Bold stripes and checks may also come in. Weaves, for the most part, it appears likely, will be small. Fabrics with crisp hand and feel, obtained through use of voile-twist yarns, seem due for increased use.

No. 1. *Crisp Sheer.* 48x44. 46 in. in reed, 39 in. fin. 16 reed, 3 ends per dent. Warp and filling 20/1 silk system blend of 50% 5-den., 3-in., dull acetate rayon staple and 50% 3-den., 3-in. dull viscose rayon staple. Voile twist, 30-32 turns per inch. Warp arranged 1 S, 1Z; filling 2 S, 2 Z. Two beams, 12 harness. Chain- and drawing-in drafts shown at bottom of page

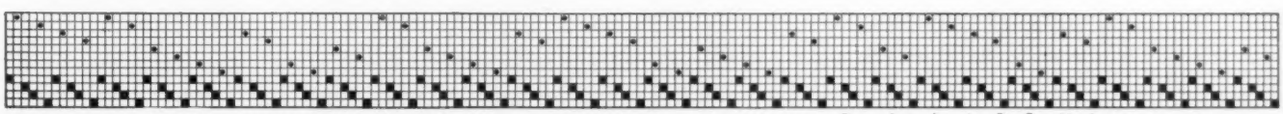
No. 2. *Poplin.* 96x38. 40½ in. in reed, 39 in. fin. 48 reed, 2 ends per dent. Warp, 200-den. dull filament acetate rayon. Filling, 23/3 cotton-count 3-den., 2-in., spun dull acetate rayon staple, poplin twist. One beam, 4 harness, plain weave. Woven on 2x1 loom

No. 3. *Poplin.* 84x48. 40½ in. in reed, 39 in. fin. 42 reed, 2 ends per dent. Warp, 200-den. dull filament acetate rayon. Filling, 30/2 cotton system 3-den., 2-in., spun dull acetate rayon staple, poplin twist. One beam, 4 harness. Plain weave. Woven on 2x1 loom

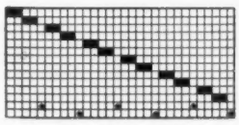
No. 4. *Sharkskin.* 180x56. 40½ in. in reed, 39 in. fin. 36 reed, 5 ends per dent. Warp, 100-den., bright black filament acetate rayon, 4 turns per inch. Filling, 200-den., dull white filament acetate rayon, 3 turns per inch. Two beams, 14 harness. Woven on 2x1 loom. Chain- and drawing-in drafts shown at bottom of page

No. 5. *Shantung.* 135x56. 42 in. in reed, 39 in. fin. 45 reed, 3 ends per dent. Warp, 100-den., dull filament acetate rayon. Filling, 24/1 silk system spun viscose rayon doupioni-type, 40 turns per inch. Filling arranged 2 S, 2 Z. One beam, 4 harness, plain weave

No. 6. *Leno.* 51x30. 47 in. in reed, 39 in. finished. 17 reed, 3 ends per inch. Warp and filling, 20/1 silk system blend of 50% 5-den., 4-in., dull acetate rayon staple and 50%, 3-den., 4-in., dull viscose rayon staple. Voile twist, 30-32 turns per inch. Warp and filling arranged 2 S, 2 Z. Two beams, 8 harness. Two ends doupe, one end leno



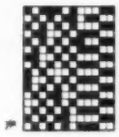
Drawing-in draft for No.1



Drawing-in draft for No.4

Chain draft for No.4

Chain draft for No.1



Standard-Coosa-Thatcher

Modernization at Piedmont shows way company keeps equipment up-to-date

STANDARD-COOSA-THATCHER CO., with headquarters at Chattanooga, Tenn., has been noted for its quality yarns since the first Thatcher established the firm during the last century. The management from the beginning has stressed keeping the mill modern with the best machinery that money can buy, and Richard C. Thatcher, present head of the company, has followed this policy to the letter. Because of the number of plants in the group and the wide diversity of products it would be confusing to describe in detail all the modernization work which has gone forward in recent years, especially since much of it has been continuous. Consequently, TEXTILE WORLD is presenting herewith a story of the modernization at the Piedmont, Ala., plant as typical of the entire company.

Modernization at Piedmont is difficult to describe because in a sense it began in 1922 and has never ceased. However, a great deal of new equipment has been installed within the last two or three years, and the work is still going forward. The following description is confined largely to the more recent improvements.

Very few changes have been made in the opening and picking rooms lately, as new Saco-Lowell bale breakers, with lattice feed, and Centrif air cleaners were added in 1928, along with new one-process Saco-Lowell pickers.

The card room contains a total of 200 Whitin and Saco-Lowell cards, which are kept in excellent operating condition at all times through a regular system of inspection and maintenance. A new Abington cleaning system was recently attached to these cards to take care of fly, comber noils, Thomp-

Photos by Core

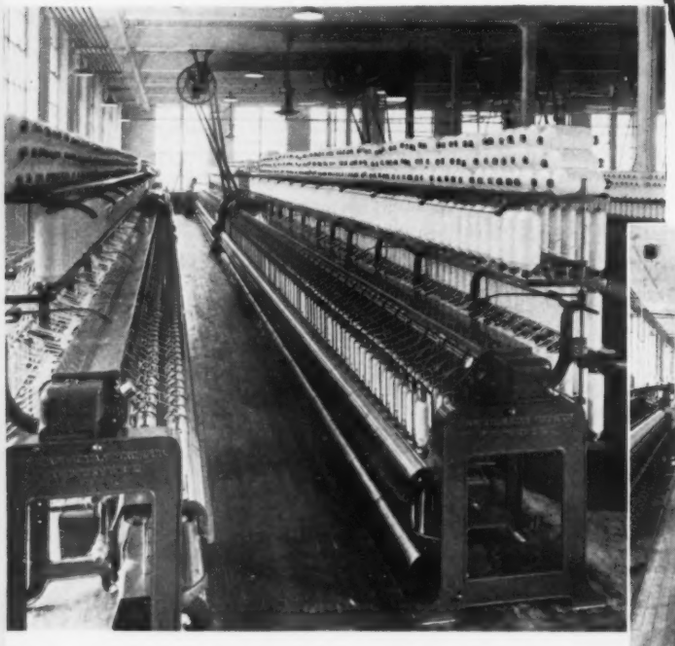


Fig. 1. Many doublings were eliminated with these new 8x4 speeders, shown above

Fig. 2. View of No. 2 spinning room showing latest type long-draft frames and overhead cleaners (upper right)

Fig. 3. Winding costs have been greatly reduced by new high-speed machines (right)

son-roll strips, and picker notes.

At the present time sixteen new H & B 5-roll 8 x 4 speeders of 176 spindles each are being installed. These frames creel double 11 x 5½ slubber roving, which reduces the number of cans and surplus stock in process. In other words, the doubling is done on the speeders, which is an example of the way a mill can save money through the utilization of modern machinery. A large number of old Platt Bros. frames were junked in this department to make room for the new speeders. Now, 8 x 4 instead of 7 x 3 bobbins go to the spinning room.

Of a total of approximately 62,000 spindles, at least 20,000 are brand new, and the others are in first-class condition. One of the major spinning changes was in the No. 2 spinning room, where old bicycle drives were junked and all narrow-gage spinning frames removed. Originally, these frames were located across the room, which meant very narrow alleys for doffing. All frames in this room now are located lengthwise, which facilitates doffing and improves the efficiency of the air-conditioning equipment.

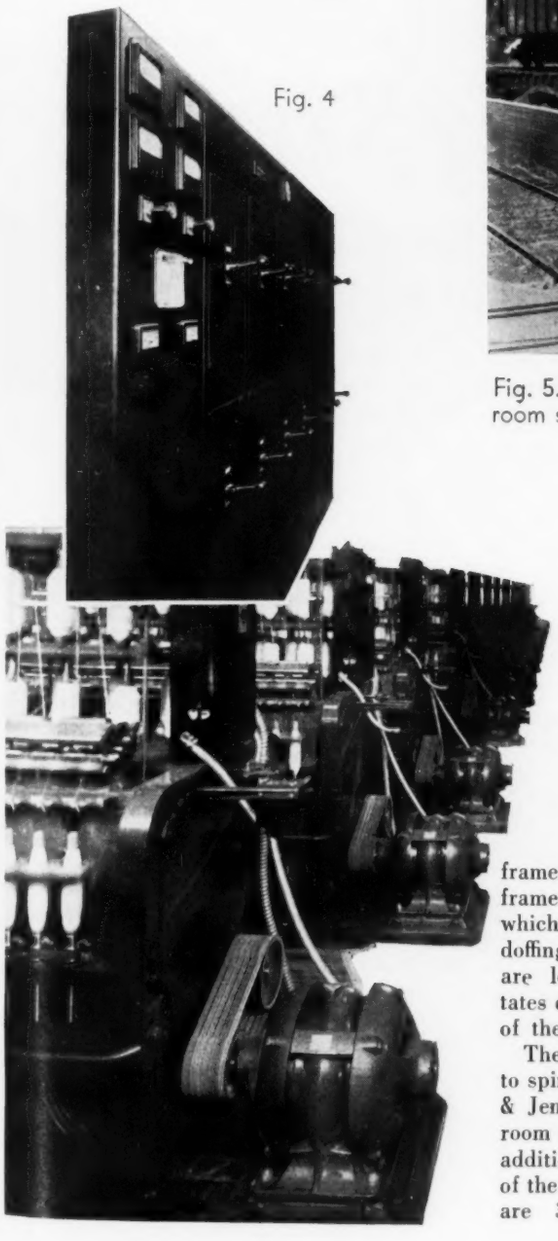


Fig. 4. This switchboard replaced an older board 16 ft. long which would have needed an additional 6 ft. to take care of present requirements

Fig. 6. It will be three years after installation before these lint-free motors have to be cleaned or lubricated (left)

There are 128 frames in this room set to spin 50s to 80s yarns. Some 64 Fales & Jenks frames were moved into this room from another part of the mill, in addition to sixteen new H & B frames of the same specifications. These frames are 3-in. gage, 1¾-in. ring, 7-in. traverse. All are individually driven, and have traverse thread board, ball-bearings, Stimson clutch, and spindles with large oil reservoir base.

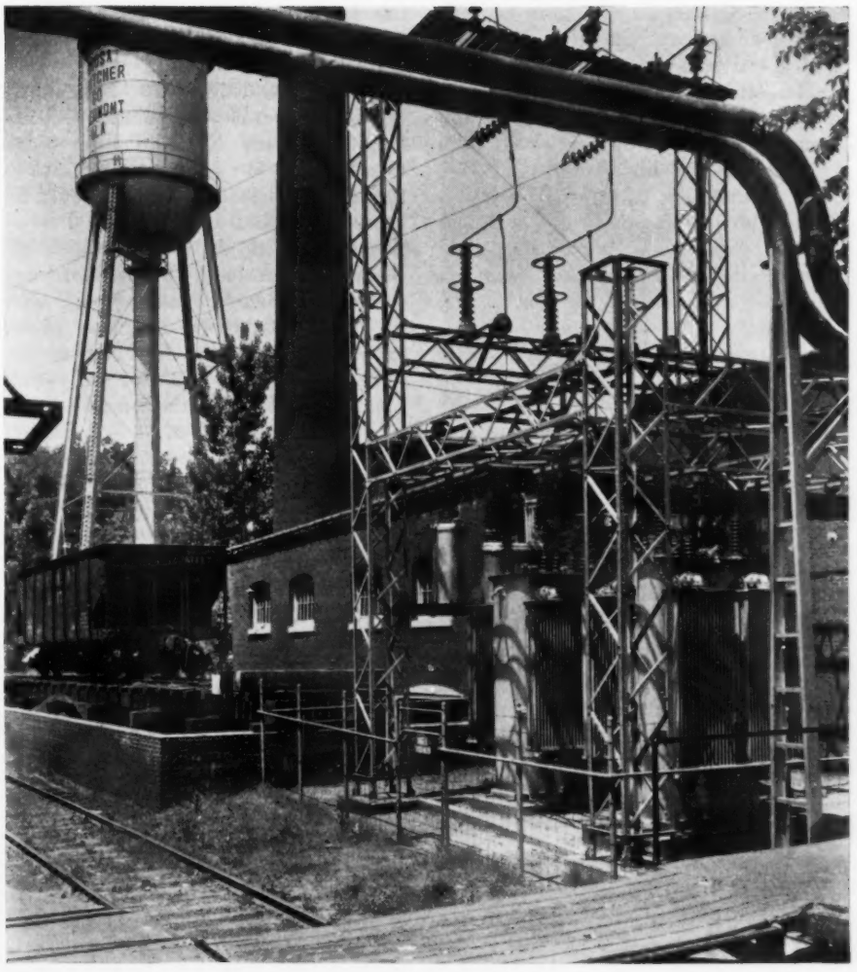


Fig. 5. The new transformer station is located within a few feet of the switch room so practically no power is lost in transmission through bus bars

In the No. 1 spinning room, which is downstairs, coarser numbers are spun. There are 112 frames in this room; the frames are individually driven by Westinghouse lint-free motors and are equipped with Parks-Cramer overhead traveling cleaners. The 64 frames previously referred to as having been installed in the No. 2 spinning room were moved out of this room to make room for 48 new H & B frames designed to spin 30s to 40s. This new spinning is 3½-in. gage, 2-in. ring, 8¾-in. traverse, and each frame has 276 spindles. The rest of the space is occupied by 64 Fales & Jenks frames set to spin 40s, 45s and 50s.

The winding department has been modernized by the addition of five No. 40 Universal warp-winders designed to produce 5-lb. packages for continuous warper creels. In addition, there are eight new No. 44 Universal Roto-Coners to make finished cones, tubes, and dye packages. For their mercerizing plant

which uses yarn in the form of ball warps, there are ten new Universal high-speed ball-warper creels.

Standard-Coosa-Thatcher Co. is equipped to supply yarn in almost any form desired, and one of the many reasons for the high quality of this yarn is that 30s to 40s are spun on 5-oz. bobbins instead of the old style 2¼-oz. bobbins. This means that there is more than twice as much yarn on packages without knots due to doffing.

Latest type Parks-Cramer air-changing equipment has been installed in No. 2 spinning room, which is next to the roof. This unit has two fans which supply 230,000 cu. ft. of air per min. and evaporate 500 gal. of water per hour. When the outside dry bulb temperature is 98° F. and the wet bulb is 76° F., this equipment will maintain an inside temperature of 91° F. and a relative humidity of 58%. The other rooms are humidified by standard-type Parks-Cramer copper heads, which have been in operation for some years.

THE NEW ELECTRIFICATION is outstanding from several standpoints. For example, a survey showed that in order to add some five additional circuits to the old switchboard in use it would be necessary to add an additional 6 ft. of panel space to the board—which already was 19 ft. long. The old board was completely removed and replaced with the newest type Westinghouse panel, arranged so that the bus bars go directly through the walls of the switch room to Moloney transformers within the space of a few feet. It is estimated that this change alone saves the mill many dollars a year through elimination of line droppage which took place in the old system. In addition, installation of Westinghouse capacitors has raised the power factor from 80% to 99%.

Spinning frames are equipped with 80 new Westinghouse lint-free motors which are so designed that lint and dust pass through them without clogging. The construction of these motors is such that they have to be examined and lubricated only once every three years. This represents a great saving at this plant in comparison with the attention given older motors. Previous to the installation of the new motors, the plant superintendent had a regular schedule of blowing out all motors and oiling them once a week. In addition, once a year all motors were torn down, overhauled, and revarnished.

Miscellaneous equipment includes new International punch and secondary clocks in each department, which reduce time lost on the shift change.

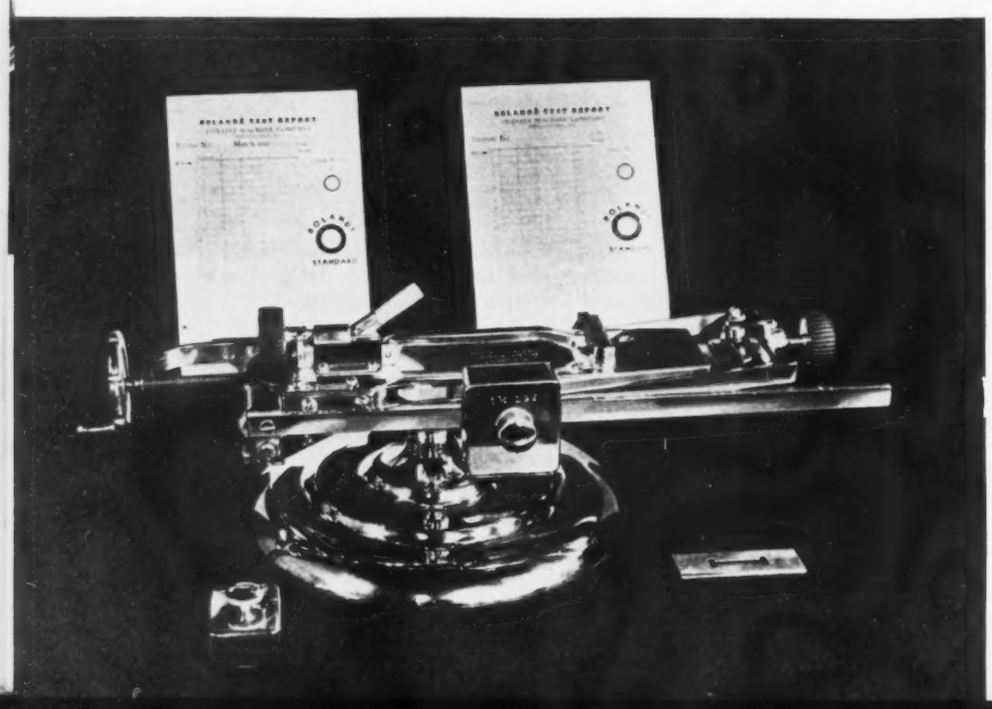
Robert & Co., Atlanta, Ga., handled the engineering work; and J. M. Clayton & Co., of Atlanta, installed the electrical equipment.

Reduction of Hosiery Seconds

Made possible by new method of control introduced for full-fashioned mills

REDUCTION OF SECONDS and other important savings are being effected in a number of full-fashioned hosiery mills which have recently installed a new system for controlling length and match. This system is designed to give positive control of stitch size and thus to insure knitting to uniform length on each machine section, regardless of weather and yarn conditions. As both legs and feet are checked, instep matching is insured, thus giving a greatly increased first-quality production over that obtained with conventional methods of inspecting gray goods. The system is known as the Fidelity-Rolandé system and is being introduced by Fidelity Machine Co., Philadelphia, under a supervised installation plan under which that company assumes full responsibility for putting it into successful operation. An interesting sidelight is that the mills which have already adopted the system are ones in which previously percentage of seconds had been relatively low.

Fig. 1. Cobert course counter and report sheets employed in the Fidelity Rolandé system



The Fidelity-Rolandé system, a complete operating plan of test and control, is based on a new principle of course-checking off the machine. This principle consists of stretching the fabric under test to a point where the stitches are elongated to a standard degree, in a precision instrument, regardless of the condition of the stitches and irrespective of the weight-tension at the time of knitting. With the fabric always stretched and held taut at a predetermined standard tension between rubber-covered clamps in the instrument, a special gage is used and the number of "R" courses is determined quickly. This indicates whether the section of machine from which the stocking came is properly adjusted for knitting to specified length or whether it is knitting too tight or too loose.

The instrument employed in making the test is the Cobert course counter illustrated in Fig. 1. The stretched stitch produced by the counter is shown in Fig. 2. It is interesting to compare this stitch with the elongated stitch of

damp day knitting in Fig. 3, and the rounded stitch of dry-day knitting in Fig. 4. These three views are magnified. Checking the courses on these two days of different weather conditions by customary methods would obviously show that the elongated stitch will scale fewer courses to the inch than the rounded stitch. This may be entirely due to weather, and the goods may finish to the desired length after boiling off and dyeing, when the stitches naturally assume their proper shape. On the other hand, it may indicate the need of machine adjustments to bring the courses per inch to standard. The knitter or fixer can only guess as to which is true and he may guess wrong, with resulting odd lengths and costly mis-matching.

With the Cobert counter, however, the goods are tested dry, and the stitches are closed by a scientifically regulated amount of stretch. This compensates

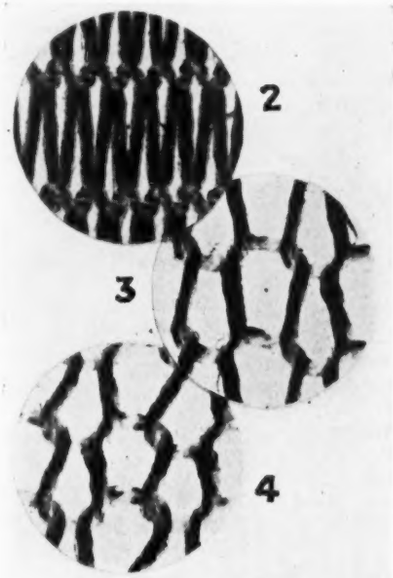


Fig. 2. Stretched stitch produced by Cobert counter. Fig. 3. Elongated stitch of damp-day knitting. Fig. 4. Rounded stitch of dry-day knitting. (All views magnified)

for any irregularity in the shape of stitch at time of knitting, and gives a precise gage of the stitch size, by a true indication of courses per inch. Thus, required length is easily and accurately controlled, with no guesswork.

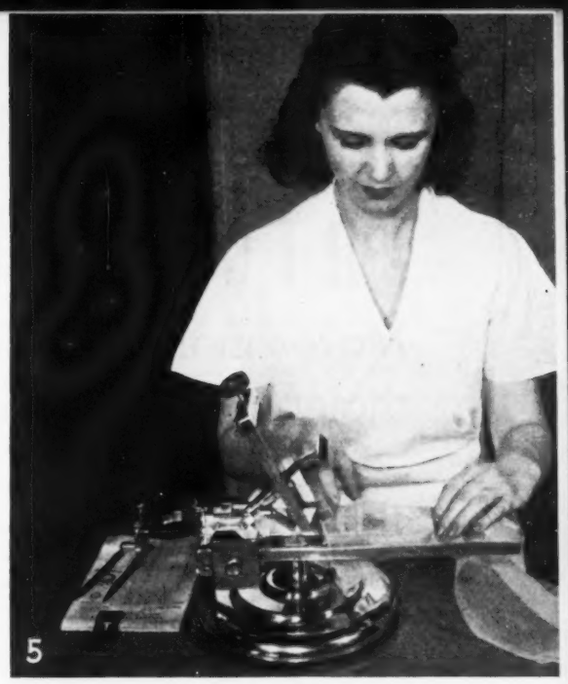
The Rolandé system is installed in the mill by experienced hosiery mill men on the Fidelity staff, who instruct the mill's own employees in all details of its operation. For the duties of test operator, any girl of average intelligence can be trained quickly in the use of the testing instrument, also the special Rolandé system test report forms and their routing and filing system.

In the every-day operation of the system, the operator makes systematic tests of sets which are received periodically from every machine. The method of making the tests is illustrated in Figs. 5 to 8. The procedure is, briefly, as follows: After identifying the machine from which the test has been received, the operator removes the report sheet for that machine from the file for new entries. She then notes the style of stocking and number of threads, sets the weight on the scale beam of the testing instrument accordingly, raises the clamp and places the stocking in the position shown in Fig. 5. Next the clamp is lowered and tightened, and the handwheel at the left of the instrument is turned to apply stretch until the scale beam rises, as shown in Fig. 6. A special gage with a 1-in. rectangular slot is placed on the stretched fabric, and the operator counts the courses as shown in Fig. 7. Finally the "R" count is entered on the test report form, as shown in Fig. 8, compared with entries for previous tests and the "R" standard, and any variation from standard noted.

THE FORM is provided in distinguishing colors, one for leggers and one for footers. A separate report sheet is made out and kept in file for each machine. This carries the machine number, style identification and gage of stocking, the Rolandé standard course count, and other distinguishing data needed. In columns alongside numbers representing the individual machine sections, the "R" count for the stocking from each section is recorded for each succeeding test, giving instant comparison with the results of preceding tests and the established Rolandé standard. Copies of these reports are then sent to the knitting room supervisor, or other designated person, and serve as guides to the fixer when adjustments are needed on sections of machines where variations from standard courses are indicated by the tests. Stockings from sections thus adjusted are then retested to check on the adjustments.

Mills which have installed the Fidelity-Rolandé system report several benefits in addition to the reduction of seconds due to controlled uniformity of length and match. For example in the pairing department, work is made easier and fewer pairers are needed. Again, in the knitting department, there is a considerable reduction of machine troubles and delays to production.

The system is so new that figures showing actual dollars and cents savings are not yet available, but preliminary reports from mills which have installed the system indicate that it will pay for itself in a short time.



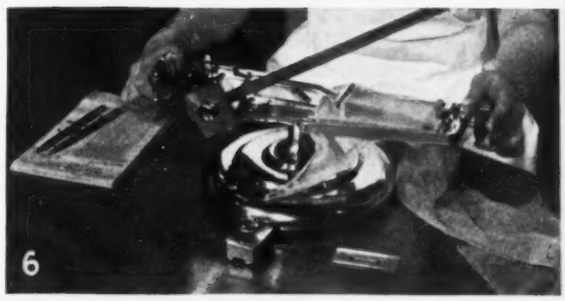


Fig. 5. The first step in making the test is to set the weight on the scale beam, raise the clamp, and place the stocking in the position shown. Fig. 6. Next the clamp is lowered and tightened and the handwheel turned to apply the proper amount of stretch. Fig. 7. A special gage is placed on the fabric and the courses are counted. Fig. 8. The "R" count is entered on the report form and compared with previous entries and the standard

Information File

Makes manufacturing data and catalog material readily available when needed

By GLENN H. ALBERGA

VAST SUMS OF MONEY are spent in producing information for the textile industry. Such information comes into every mill with each mail. It is impossible to foresee when this material may be needed; yet, it frequently finds its way either to the waste basket or to some forgotten spot from which it is impossible to call it to hand at the crucial moment. Mills which strive for highest efficiency should make this material available to their overseers and technical staff at a moment's notice. Only a slight expenditure of time and money is required systematically to file this wealth of helpful data, and mills which make this expenditure will find themselves amply repaid.

Useful information which comes to textile mills is of several types: descriptive advertisements; literature, some descriptive and some technical; technical articles; and answers to questions, as, for instance, TEXTILE WORLD's Questions and Answers page. Material which does not come in unsolicited can be obtained by answering advertisements and sending for such descriptive articles, booklets, house organs, and other material offered for the asking.

Having secured this data, some simple method must be devised for making it instantly available to those interested. Preferably, the material should pass over one desk. Some one person should be assigned the duty of tapping this source of information. While the headings under which material is filed will vary somewhat, depending on the type of the particular mill, three main divisions will cover most needs. These are:

1. A technical file, illustrated in Table I. This file obviates keeping magazines in their entirety. Magazines soon occupy a large amount of space and contain masses of material not pertinent to any one business, and not readily accessible when needed.

2. A general products catalog file, illustrated in Table II.

3. A bookcase for large catalogs, many of which are frequently referred to by the purchasing department. Unless very extensive, this file need not be indexed. Like catalogs should, of course, be grouped together.

The heart of the usefulness of an information file lies in the ease with which it may be made to operate, both as to marking of material for filing and locating of filed data when needed. The first of these ends can be obtained by use of key numbers for indicating to the filing clerk the file in which specific material is to be placed. This numbering saves the supervisor from wasting time in making long notations. The key numbers are so selected as to permit reasonable expansion of the index. Also, it will be noted, the index is at once numerical and alphabetical. In time, the numbers of most referred to sections will be memorized, and the folders called for by number, without reference to the master index. Tables I and II show examples of numbering.

File subdivisions must be carefully selected, so that an excessive amount of material will not find its way into any one folder. If this does happen, the folder should be further subdivided. An example of this is to be found in sections 138, 139 and 140 of Table II.

The second requirement—ease of locating material when needed—requires sufficient care in the choice of subdivisions that it will not be necessary to look in several places to find wanted data. In other words, overlapping should be avoided, and clear lines of demarcation should exist between sections.

Experience has proved that information files such as this will build up and become quite complete in about two years. Also, it has been found that about once a year it is necessary to scan the files and remove duplicate, superseded and outmoded material.

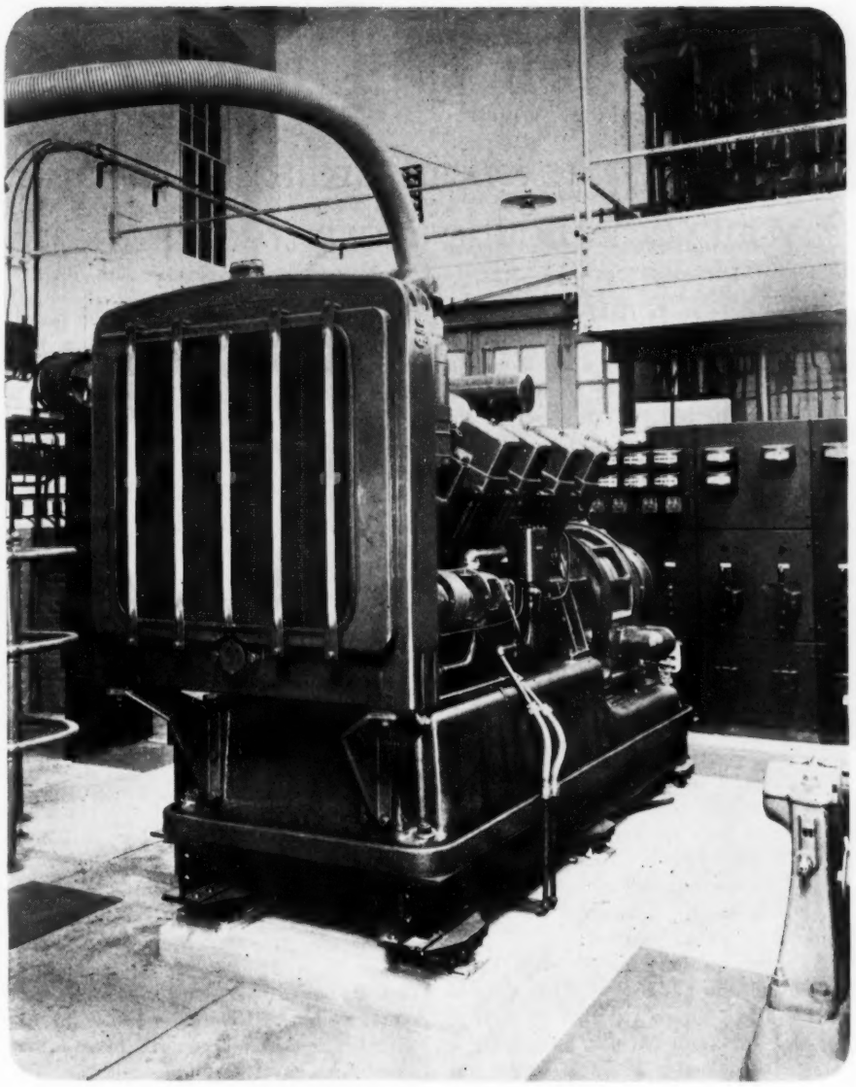
With a file system of the type described, no matter how far a mill is from the source or market, it can have the answer to most problems immediately available. This saves valuable time and provides the mill with bases of comparison between competitive products and alternate methods.

TABLE I—TECHNICAL FILE

T6 Beaming; Quilling
T12 Boilers
T24 Building Construction
T36 Chemistry
T42 Compressors; Pumps
T48 Cost Accounting and Budgeting
T60 Dyeing
T66 Electricity — Generation
T72 Engineering
T84 Fabric Construction
T96 Finishing
T102 Heating
T105 Insurance
T106 Instruments
T108 Legal
T120 Lighting
T132 Loomfixing
T138 Machine Shop
T144 Maintenance — Building
T156 Maintenance — Equipment
T168 Mothproofing
T180 Organization and Management
T192 Painting
T204 Personnel
T210 Power Transmission
T216 Production and Planning
T228 Purchasing
T240 Sales
T252 Scouring
T264 Steam — Distribution
T276 Steam — Generation
T288 Testing
T300 Ventilation
T312 Wages
T324 Weave Room
T336 Yarns

TABLE II—CATALOG FILE

5 Beaming; Quilling
10 Bearings; Bushings
15 Building Maintenance
17 Building Materials
20 Chemicals
23 Dyestuffs
25 Dyehouse Equipment and Switches
30 Electrical — Instruments
31 Electrical — Lighting
32 Electrical — Motors and Switches
33 Electrical — Appliances
34 Electrical — Supplies
38 Fire Protection and Safety Equipment
40 Finishing Repairs and Supplies
41 Finishing Machinery
44 Furniture, Files, Storage, etc.
47 Heating and Humidifying
49 Laboratory Supplies
51 Loom Supplies
54 Lubricants
56 Machine Shop Supplies
58 Machine Tools
60 Materials Handling Equipment and Weighing
65 Medical Supplies
70 Metals
75 Meters
77 Mill Supplies
80 Office Machines
82 Office Supplies
86 Paper, Tubes, and Shipping Supplies
90 Paint
95 Pipe fittings and Supplies
100 Power Plants
105 Printing, Tags, Labels
110 Pumps and Compressors
115 Rubber products
118 Sewing machines
120 Screws, Bolts, etc.
125 Sample books
128 Testing machines
130 Time recording
134 Technical instruments
138 Transmission — Belts, Pulleys, Drives, etc.
139 Transmission — V-Belt Drives
140 Transmission — Sprockets and Chains
145 Traps and Separators
147 Water Treatment
150 Yarn Machinery



Diesel generating set at Boott Mills. Note main buses and circuit breakers on balcony; also rubber shock absorber under I-beams

For Emergency Service

Boott Mills has installed diesel-powered electric generating unit in engine room

By FRANCIS A. WESTBROOK

BOOTT MILLS, Lowell, Mass., has recently completed the installation of a diesel-powered electric generating unit. The unit is mainly for emergency lighting and elevator service; but also for supplying small amounts of power to operate a few productive machines when the plant as a whole is shut down. One of the principal reasons for this installation was the difficult experience which the management went through during the devastating flood of 1936 when there was no power available for lighting or any other purpose at a time when it was particularly badly needed.

The mill manufactures a range of fabrics including towels, curtains, corduroy, velveteen, ducks, drills, gabardines, moleskins, etc. It is located on the bank of the Merrimac River, whence it obtains power through the system of Locks and Canals of Lowell. It also has a steam-generating plant to take care of power requirements during periods of low water. Outside purchased power is not used at all, so that the mill is dependent on its own power equipment.

During the flood of 1936 the water flooded the boiler room and came up to about 4 ft. from the floor on which the generating equipment is located. The main buses and oil circuit breakers were below this floor and, consequently, were under water and rendered inoperative. Thus the mill was entirely without power from any source.

There was considerable warning of the approach of high water. However, it was possible to carry on the work of rehabilitation only during daylight hours, resulting in much lost time. Again, as there was no elevator service, it was impossible to move much of the equipment which might otherwise have been placed out of harm's way on an upper floor.

THE FIRST CORRECTIVE MEASURE taken was to move the buses and circuit breakers to a balcony several feet above the engine-room floor. The next was to install the diesel-driven generating unit on a base about 2 ft. above the floor, and to provide a switch so that it can be connected to the main bus. This is also high up on the wall. As the 1936 flood was the highest ever recorded, there is a factor of safety of some 6 ft. Consequently, it is unlikely that the mill will ever be without at least sufficient power to provide lighting and elevator service to aid in combating the difficulties arising in the event of another such catastrophe.

Although the diesel was installed primarily for emergency service, once in a while during off periods it is run to operate a few machines, such as looms.

The diesel is shown in the photo accompanying. It has eight cylinders arranged in a V, and has a gasoline engine starter, which cuts out automatically when the diesel comes up to speed. It is rated for 160 hp., 825 r.p.m.; the direct-connected generator is rated at 100 kw., 3 phase, 550 volts. Under the I-beam base on which it is mounted are three spring shock absorbers on each side to take up the vibrations. A 275-gal. fuel oil tank is located against an adjacent wall of the engine room. This is sufficient to operate the diesel at full load for a 40-hr. week, which indicates the small amount of fuel used by this engine. As the diesel is not operated on any regular schedule, it is run once a week as a routine test. The diesel engine was furnished by Caterpillar Tractor Co.; the generator, by General Electric Co.

Designing Dobby Fabrics

Producing the chain draft and slasher layout; calculating yarn requirements

By MARK P. FOX
Professor of Fabric Design
Alabama Polytechnic Institute

A MILL DESIGNER'S DUTIES in preparing a warp layout and drawing-in draft for a shirting fabric were described in an article by the author in the March, 1940, issue of TEXTILE WORLD. It is the plan of the present article to cover the subjects of the dobby-chain draft, calculating yarn requirements, and slasher layout.

Fig. 1 shows the specifications of the fabric to be produced. The next task with which the designer is confronted is that of making the chain draft, a diagram indicating which harnesses are to be raised on each successive pick in one repeat of the weave, or, as is the case in the fabric under consideration, combination of weaves.

The draft is produced by painting on squared paper, adjacent to each other, vertical lines of raisers and sinkers, one line for each of the harnesses on which the warp is drawn in, beginning at the left with the first harness, and continuing in numerical order.

Fig. 2 is a small section of the drawing-in draft for this cloth (which was shown in full in the previous article). The segment, however, is large enough to illustrate chain-draft construction. It will be noted the first six harnesses control the white body of the cloth. These weave plain, and are so painted at the left of the chain draft shown at *A* in Fig. 3. Harnesses 7 to 12 control the rayon stripes of the fabric. Their weave is a $\frac{5}{1}$ right-hand twill (as stated in specifications, Fig. 1) and they are painted on the chain draft at the right of the plain-weave portion. Last, there are harnesses 13, 14, and 15. These, reference to the specifications indicates, weave $\frac{3}{1}$ right-hand twill. Therefore, three ends of this twill are painted at the extreme right. The result is the complete chain draft for producing the desired weave.

It will be noted draft *A* is labeled R. H., indicating that it is for a right-hand loom. This is because different drafts are necessary for left- and right-hand looms, to produce the same effect in the finished fabric. (To determine whether a loom is right- or left-hand, face the loom when standing at its breast beam. On a right-hand loom, the power source is on the right and the dobby on the left.) It is wise for the designer to make out drafts for both types of looms, rather than leave this to the chain builder or loomfixer.

B in Fig. 3 shows a draft which will produce this same effect from a left-hand loom. The bottom pick of the original chain becomes the top pick in the new one. That next to the bottom in the right-hand chain moves to next to top position in the left-hand chain. This process continues until the chain is completed, as shown.

THE NUMBER OF YARDS and pounds of each count and color of yarn which will be needed for one yard of cloth must next be determined. This can be multiplied by the number of yards of cloth to be made to determine the total amount of yarn required.

As shown in the warp layout in Table I (March issue) there are 3,744 ends of 50/1 white. There are also 48 selvage ends of the same yarn. This gives a total of 3,792 ends of 50/1, which has a take-up of 6%, 3,792 divided by (100%—6%) or .94 equals 4,034 yd. of 50/1 white required for the warp.

There are 312 ends of 150-den. natural rayon, having a take-up of 3%. 312 divided by (100%—3%) or .97 equals 322 yd. of 150-den. natural rayon. The same yardage will be required of the green 64 rayon.

There are 156 ends of 50/3 novelty yarn, composed of white, green, and black, with a take-up of 3%. 156 divided by .97 equals 161 yd. of 50/3 novelty warp per yard of cloth.

To ascertain the number of pounds a given yardage of cotton yarns will weigh, we use the following formula: Yards ÷ Count × 840, or 1 hank = pounds of yarn. Thus 4.034 yd. ÷ 50 × 840 yd. = .096 lb. of 50/1 white warp per yd. of cloth.

It has been found that the constant 5,315, divided by the number of denier rayon, equals the cotton equivalent of a given rayon yarn. Thus for a 150-den. rayon 5,315 ÷ 150 = 35s cotton equivalent. Then, applying the formula: 322 yd. ÷ 35 × 840 yd. = 0.11 lb. of 150-den. natural rayon per yd. of cloth. An equal weight of 150-den. green 64 rayon will be required, since there are the same number of yards of each.

To determine the poundage of novelty yarn which each yard of cloth will re-

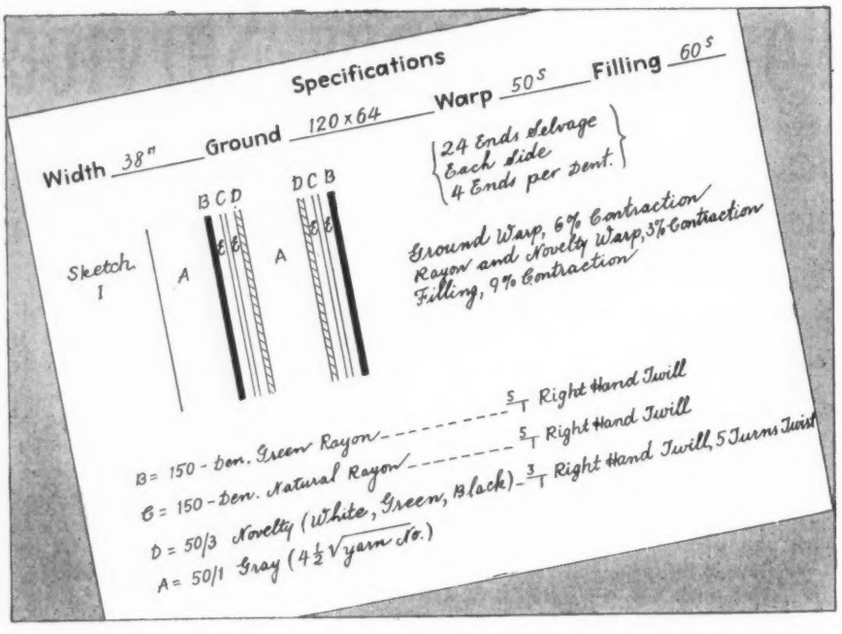

Specifications
Width 38"
Ground 120×64
Warp 50s
Filling 60s
24 Ends Selvage Each Side
4 Ends per Dent.
Ground Warp, 6% Contraction
Rayon and Novelty Warp, 3% Contraction
Filling, 9% Contraction
Sketch I
A
B C D
D C B
B = 150-den. Green Rayon ---------- 5/1 Right Hand Twill
C = 150-den. Natural Rayon ---------- 5/1 Right Hand Twill
D = 50/3 Novelty (White, Green, Black) - 3/1 Right Hand Twill, 5 Turns Twist
A = 50/1 Gray (4½ √yarn No.)

Fig. 1. Sketch of rayon-stripe shirting, with specifications for weaving

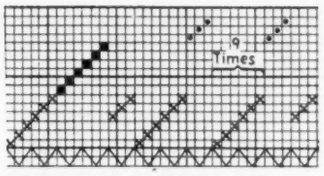


Fig. 2. Small section of drawing-in draft and reeding plan for rayon-stripe shirting

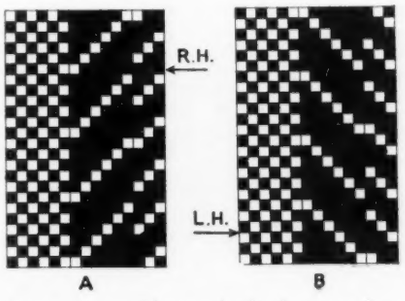


Fig. 3. A—Chain draft for producing desired weave on right-hand loom. B—draft for producing same weave on left-hand loom

quire, we must first obtain the single equivalent of this 3-ply yarn. Since the yarn consists of 3 separate strands of 50s, it will naturally be three times as heavy as a single strand. Its count, therefore, will be one-third of 50, or 16.66. Having this information, the formula can again be applied: 161 ÷ 16.66 × 840 yd. = .0115 lb. of 50/3 novelty warp.

The next operation is to determine the amount of filling. The length of each pick in the fabric will be the same as the width of the cloth in the reed, as indicated in Fig. 2, March issue. Therefore, 41.75 × 64 picks per in. × 36 inches in 1 yd. ÷ 36 (to change in. to yd.) = 2,672 yd. of 60/1 filling. Applying the formula for determining weight: 2672 yd. ÷ 60 × 840 yd. = .053 lb. of 60/1 filling per yard of cloth.

Thus, it can be seen the fabric will require, per yard:

.096 lb. of 50/1 cotton ground
.011 lb. of 150-den. natural rayon
.011 lb. of 150-den. green rayon
.0115 lb. of 50/3 novelty
.053 lb. of 60/1 filling

.1825 lb. of yarn per yard of cloth.

It is often convenient to speak of the yards per pound of a fabric, rather than pounds per yard. To obtain this figure, the number 1 is divided by .1825. This equals 5.47 yd. per lb. for the fabric being discussed.

THE SLASHING or preparation of warps for the looms is one of the most important processes in the production of cotton cloth. It consists, first, of sizing or starching the warp ends, thus cementing the protruding fibers to the core of the yarn. Second, the warp ends must be placed on the loom beam in such an order as to insure a smooth warp with the proper tension. The plan which the designer makes to control the number of ends to be laid in each dent of the slasher comb is known as the slasher layout, and is constructed from the drawing-in draft. Enough emphasis cannot be put on the importance of properly constructed slasher layouts. Though utmost care and efficiency have prevailed throughout all other processes, if the slasher layout is not right, the warp will not weave properly.

In constructing warps for the pattern under consideration, the rayon is placed on a top beam, while the ground yarn and novelty yarn are slashed on the bottom beam. There is little difficulty in arranging the rayon on the top beam as all the ends are of the same denier and weave and can be arranged just as they come in the drawing-in draft, with an equal number of ends to each dent in the comb. Care should be taken to have heavy, smooth paper placed between rounds on the beam about 100 yd. apart. This enables the weaver to straighten out all ends which may have become broken and lapped around the beam during weaving, as they are plainly visible as each paper comes up.

The layout for the bottom-warp beam is of greater concern and should be made as follows:

There are 3,792 ends of 50/1 white, and 156 ends of 50/3 novelty yarn which are equivalent in weight to 468 ends of 50/1 (156 × 3). This gives a total of 4,260 ends of 50/1 or equivalent. From our knowledge of the slasher comb which is to be used, and the width of the loom beam (44 in.) on which the warp is to be wound, we know that the number of dents required in the slasher comb will range from 350 to 500. If 420 dents were used, there would be 4,260 ÷ 420) or approximately 10 equivalent ends per dent. This number should be varied only slightly, if a smooth beam is to be made.

If some of the stripes have weaves of a looser construction than that of the ground, these ends would take up in weaving considerably less than the ground. Unless provision is made to take care of this, these ends will slack off in weaving, eventually causing the loom to knock off. This slack can be taken care of in the slasher layout, by reducing the number of these ends per dent. This portion of the warp thereby does not build up as rapidly as the ground. Hence less yarn is put on the beam, thus offsetting the deficiency in take-up of the stripe involved.

When yarns of different weaves are put on the same beam as the ground yarn, as in this case, the counts or diameters of the yarns, if different from that of the ground yarn, must also be taken into consideration. In placing the stripes of 50/3 novelty yarn on the same beam with the 50/1 ground yarn, it can readily be seen that if 10 ends of 50/1 ground were placed in a dent, three ends of 50/3 novelty would be approximately their equivalent.

On the other hand, when patterns have stripes of a decorative weave such as a 5-harness satin, the ends weaving satin are usually crowded to double density in the reed. This tends to compensate, to some extent, for the decreased take-up of these ends brought about by the relatively small number of interlacings per inch in the satin weave.

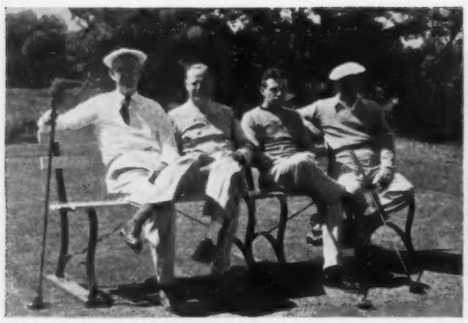
Now, in this pattern, there are decorative stripes of 50/3 novelty yarn weaving $\frac{3}{1}$ twill, and there is also a crowded condition of these ends in the reed, brought about by the fact that the yarn has a greater diameter than the ground yarn. All of the three above mentioned conditions must be considered when determining the number of ends of 50/3 novelty to place in a dent of the slasher comb.

The completed slasher layout is shown in Table I. It will be noted that there are an equal number of ends of 50/1 white before the first 3-end novelty stripe, and after the last of these stripes. In other words, the pattern is exactly centered on the beam.

Since the 24-end selvage could not be evenly divided by either 9 or 10 (the number of ends of 50/1 which are to be placed in each dent of the slasher comb) it was necessary, in preparing the slasher layout, to borrow five ends from the first repeat of the body warp. This makes a total of 29 ends of selvage and border in three slasher-comb dents. The five ends are returned to the body warp at the last repeat, leaving only 19 ends of selvage, which are drawn-in in two dents.

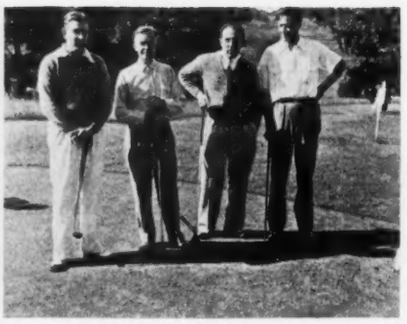
Table I—Slasher Layout

	Dents	50/1 white	50/3 novelty
Selvage and Border	2	10	24 ends selvage, plus 5 ends ground borrowed from first repeat
	1	9	
26 Repeats	4	10	
	1		3
	6	9	
	1		3
	5	10	
Selvage	1	9	The 5 ends borrowed from the first repeat and put in the border are now taken from the selvage and added to the final repeat of the body
	1	10	
Totals	447 dents	3,792 ends	156 ends



Geo. F. Dickson, Minneapolis Knitting Works; Ed. Eisner, Forest City Knitting Co.; H. E. Aken, Cannon Mills; F. W. Boehmen, BZB Knitting Co.

W. J. Yates, Johnston Mills Co.; E. L. Olrich, Munsingwear, Inc.; A. G. Myers, Textiles, Inc.; E. L. Dale, Aberfoyle Mfg. Co.



J. B. Frierson, Dixie Mercerizing Co.; R. Y. Cooper, Coopers, Inc.; Ralph Heilbronner, Holeproof Hosiery Co.; W. T. Galey, Aberfoyle Mfg. Co.

Chicago Yarn Men Entertain

THE 19TH ANNUAL golf tournament of the Chicago Yarn Men's Club, at Barrington Hills Country Club, Barrington, Ill., June 20, attracted the largest crowd since its inception. Beautiful golfing weather greeted more than 100 hosiery and underwear manufacturing guests from all over the Middle West when they teed off after lunch for the 18 holes of tournament play.

About 125 members and guests sat down to dinner following the nineteenth hole. W. D. Benson, American Viscose Corp., president of the Chicago Yarn Men's Club and toastmaster at the dinner, presented the annual cup for low net score—69—to J. P. Gallagher, BZB Knitting Co., with a wrist watch as permanent trophy. Robert Boehmen, who set a record by getting low gross for the third consecutive year,—this year with an 80, won a beautiful traveling bag. Fourteen other prizes went to the next fourteen winners. "Uncle Bill" Ziock, who attended with three of his sons, Roy, Carl and Bill for the first time, was called on for a few words, as was Earl Constantine, president of National Association of Hosiery Manufacturers. "Dick" Dickson led in singing the "Yarn Men's Theme Song," assisted by Fred Frank and E. L. Olrich.

Visitors from afar this year included A. G. Myers and P. H. Thompson of Textiles, Inc., Gastonia, N. C.; H. E. Aken, Cannon Mills, New York; J. B. Frierson, Jr., Dixie Mercerizing Co., Chattanooga, Tenn.; and George Porges, Kaumagraph Co., New York.

Twelve of the foursomes are shown.

1

2

3

1. W. H. Ziock, Jr., Portage Hosiery Co.; R. E. Chesebro, Hand Knit Hosiery Co.; Arthur H. Emerson, John F. Street Co.; George M. Porges, Kaumagraph Co.

2. J. H. Nary, U. S. Testing Co.; F. E. Morey, Oscar Heineman Corp.; Henry Pollak, Phoenix Hosiery Co.; Richard J. Caron, Caron Spinning Co.

3. J. P. Gallagher, BZB Knitting Co.; W. P. Schofield, Rockford Mitten & Hosiery Co.; C. F. Peffer, Cannon Mills; P. W. Baker, Holeproof Hosiery Co.

4. R. P. Cavanagh, Kenosha Full Fashioned Mills; R. Z. Boehmen, BZB Knitting Co.; E. J. Neal, Aberfoyle Mfg. Co.

5. Gordon F. Brine, Rollins Hosiery Mills; Earl Constantine, National Association of Hosiery Manufacturers; Ted Jamison, Joseph Black & Sons Co.; J. A. Holt, Aberfoyle Mfg. Co.

6. J. Kahn, Kahn & Feldman; R. A. Smith, Wilson Brothers; W. D. Benson, American Viscose Corp.; R. N. Kimball, Auburn Hosiery Mills

4

5

6

C. M. Patterson, Caron & Patterson; E. F. Kingman, Rockford Mitten & Hosiery Co.; W. W. Stegman, Wilson Brothers; B. S. Dutcher, Fox River Valley Knitting Co.

D. E. Douty, U. S. Testing Co.; O. J. Caron, Caron Spinning Co.; D. C. Woods, Rollins Hosiery Mills; J. H. Brine, Oscar Heineman Corp.

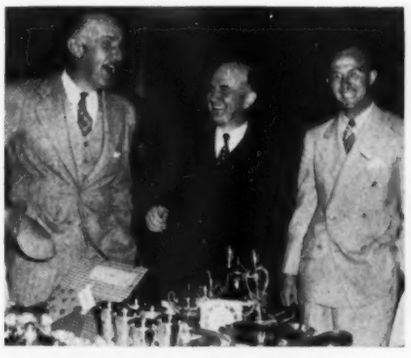
N. F. Lahar, Cooper Wells & Co.; D. W. Bain, Wilson Brothers; W. C. Donovan, Wilson Bros.; W. T. Cole, Oscar Heineman; R. J. Mathewson, Standard-Coosa-Thatcher

Chattanooga Golfs in the Rain

UMBRELLAS AND RAIN JACKETS were called out to boost the spirits of the 96 enthusiastic golfers who braved thunder clouds and showers to participate in the 15th Annual Spring Golf Tournament of the Chattanooga Yarn Association at Lookout Mountain, Tenn., May 23 and 24. Two hundred members and invited guests attended.

Bud Johnston was in charge of golf; Tom Moore was the genial host of the Skeet shooters; Wilbur Lawson outdid himself in providing entertainment indoors. Other committee chairmen were F. N. Belk on invitations and R. H. Griffith, through whom 42 handsome prizes with an estimated value of $2,000 were assembled.

Prize winners were as follows: For low net, Woods Huff, Rockwood, Tenn.; 2nd low net, Walter Thompson, New York; tieing for low gross for 18 holes, Geo. West and Rowell Carter, both of Chattanooga, Tenn. Henry Bryan, Chattanooga, won the Bob Smith Award as low net winner among the Chattanooga knitters. Officers of the association are Dudley Bryan, president; Bud Johnston, vice-president; Tom Moore, secretary, and Spencer Sparks, treasurer.



The Winners! George West, tied for low net, 18 holes, Henry Bryan, winner of Bob Smith Award, Woods Huff, Low net champion

1. Jimmie Johnson posts the scores. Standing; left to right, Fred Robinson, Woods Huff, Jim Huff, Jr., Bud Johnston. **2.** Teeing off. Left to right, Rowell Carter, Jop Rickman, Bob Shapard, Frank Dudley. **3.** Wm. H. Newton, Frank Muschamp, Karl Ginter, J. P. Marchington. **4.** Brown Mahon, A. G. Myers, Dudley Bryan and Leonard Smith. **5.** Standing; Garrett Johnston, R. W. Roan, Talley Johnston; seated, Chas. Hall; Garrett seems to have Charlie one down. **6.** George Szabo, Archie Fortune, R. H. Griffith, Chas. Comiskey. Photo below: Floyd Ison, R. L. Shields, Frank Scull

FIXING HOSIERY MACHINES

FULL-FASHIONED MACHINES—Chap. I (cont'd). Erection and Realignment

By WALTER A. SIMOND

FORMERLY IT WAS NECESSARY to place the front bed, *C*, (Fig. F1, TEXTILE WORLD, June, 1940) and gage the center bed, *D*, from it. However, the center beds of modern Reading machines are fitted with locating pins, and Textile Machine Works prefers to leave off the front bed until after the needle bars are placed.

The next step after laying the center bed and adjusting the frame is to remove the camshaft-bearing caps; and clean and oil the bearings thoroughly before laying the sections of the camshaft in them. Since these sections are heavy, check the alignment of the frame carefully before attempting to roll the sections in the bearings. With the frame straight, they will roll freely. Couple the sections of the camshaft, and, if the whole shaft turns freely, start at one end of the frame and fasten the bearing caps down firmly. Turn the camshaft over after each cap is secured. Any binding is usually caused by frame misalignment, which must be corrected.

The other shafts may now be placed, great care being taken that each shaft turns freely in its bearings before another shaft is placed, and its couplings secured; also that all pin and screw holes match perfectly before the shaft bearings are fastened to the frame sections. The order preferred is as follows:

1. The driveshaft, knockover-bit shaft, and narrowing-lift shaft are usually threaded through their bearings, levers, collars, and other parts required.
2. The front-catchbar shaft, as assembled for shipment with bearings and levers.
3. Stitch-regulating shaft, as assembled with its bearings.
4. Needle-bar shaft, complete. Take special care to make the couplings of this shaft secure and keep them tight. Selvage cuts are likely to occur if these couplings loosen a little, and it is the last place one would look for trouble of that kind.
5. Presser shaft, complete.
6. Handwheel shaft, complete.
7. Back catchbar shaft, complete.
8. Check the (timing) circumferential setting of the camshaft cams with the gages furnished by the machine builders, as follows: Turn the camshaft to the needle-bar setting; take off two camshaft-bearing caps; place a layer of heavy paper under each, and screw them down firmly so the camshaft can not move; next check the series of needle cams, and then the other cams. It is recommended that the needle-bar cams be regarded as fixed; and, when slight changes are required to obtain a better fabric, that all changes be made with the other cams.
9. Take the paper out of the bearings, put the split gears on the camshaft, and secure the pinions on the driveshaft. In regard to these pinions, an article in the *Reading Record* states: "Because of a knitting smash on a machine, the camshaft may twist and force one or more of the driving pinions out of position, thus placing a twist in both driveshaft and camshaft. Under such a condition driving gears would not return to their original position, but would hold the shafts in the twisted position, with a consequent changing of the cam timing. This results in poor narrowing and loop-forming operations and can be remedied by loosening the setscrews holding the pinions to the drive shaft, thus allowing the twisted shafts to return to their normal position. When re-setting the pinions to the gears, see that the backlash between the teeth of the three sets of driving gears is taken up in the same direction so that the driving force will be placed on all driven gears at the same time and the camshaft will be driven evenly when the machine is started.
10. Connect the handwheel shaft to the driveshaft with the silent chain; put the tension idler on over the chain.
11. With the needle-bar-lever rollers on the low dwell of the cams, check for uniformity of distance between all rollers and their cams; attach the needle-bar springs; place the assembled needle bars, and secure them; put on the needle-bar forks. The needle-bar rollers should all be checked for uniformity of distance from the low dwell or circle

Photos Courtesy Textile Machine Works

Erectors setting up a full-fashioned hosiery machine

of their cams before the springs are placed in position. They should be adjusted if necessary so that they all bear on their cams with an equal pressure. Textile Machine Works recommends the following simple method of doing this:

"First, note all rollers that do not rest against their cams and the distance they are away. Now, those rollers that are not against their cams should be moved about one-half the distance toward the cam, and those in contact with their cams must be moved away from their cams an equal distance. This action will equalize all rollers and relieve the levers and shaft of any twist when the springs are attached. Second, make a final check to determine whether or not each roller is resting against its cam by placing a divider under every other roller and checking the other rollers to see that they are the same distance from their cams. Now place the dividers under the rollers just checked and go over the others to see that they are uniform. An additional check may be made by placing a finger on the roller and tapping the lever with the other hand. If the roller is not in contact with the cam, vibration of the roller will be felt. In such cases re-adjust the roller accordingly."

Attach the needle-bar springs.

"The needle bars should be completely assembled before installation in the machine as follows: Remove the needle bars from the shipping box. Clean all paint and dirt from the hinge pads and the bearings on the needle bar lifting arm. Assemble the needle bars to the lifting arm according to number. Clean the bearing surfaces of the handlevers and assemble them to the needle bar forks. These handlevers are also numbered the same as the needle bars. Tighten all setscrews in assembling these parts."

12. Lay the sections of the front bed, *C*, on the frame, and then carefully check the alignment of the frame before attempting to fasten the bed down. When the machine is in perfect alignment, the pin holes in this bed will match those in the frame sections. This bed must be absolutely straight, since its back edge determines the location of the needles, sinker heads, catchbar, narrowing machine points, etc. After it is fastened down, go over it carefully, remove all burrs, and wipe perfectly clean with waste whenever it is to be used for gaging.

13. Place the sinker heads; set them central to the needles; gage to the front bed; and fasten them down temporarily, because the tops of the needles must be aligned parallel to the top edges of the sinkers before the sinker heads have their final setting. A temporary setting of the needle height is made with a block gage, after which the needles are drawn down so the tops of the needles are even with the tops of the sinkers, and the camshaft is firmly locked as for checking the position of the cams. Be sure the camshaft is locked; otherwise the pull of the springs and vibration from other machines will ruin the alignment. Test the needle height by scraping over the tops of the needles with a thin piece of steel, and adjust until the needles are in perfect alignment. Bring the needles up, and adjust the sinker heads with the sinkers protruding about $\frac{1}{8}$ in., until both needles and sinkers are central with each other.

Each shaft must turn freely in its bearings before another shaft is placed

14. Place the jack beds, and put on the slurcam guide bar. When the guide bar is not fitted with locating pins, it must be carefully gaged from the front bed. Gage the jack beds from the slurcam guide bar and set the jacks central.

In the early machines, the practice was to make such changes as were necessary to accommodate variations in yarn tension with the verge plates and jack beds; but in order to have and maintain a better control of the sinker and divider action, Textile Machine Works advises a perfect alignment of the verge plates and jack beds, with such slight changes of the needle bars as are needed.

15. Float each slurcam box across its jack bed, and gage it to the verge plate at both ends of each head, with a divider of the same gage as the machine, to be sure the jacks will not be jammed after the Coulier motion is connected to the slurcam-box bar. Fasten each slurcam box as you proceed.

16. Attach the proper springs to all the levers now in position.

17. Place equalizing levers, hooks, and springs. (Reading machines only.)

18. With the needles in the yarn-kinking position, set the presser motion with the gage blocks between the roller and the presser-cam circles; set the regulating motion; and gage the needles from the front bed. This adjustment of the needles must be absolutely accurate at the bottom and the top of the needles if uniform fabric is to be produced. The set of gage blocks used varies with different machines. Thus, for Reading long-needle machines with $1\frac{1}{8}$-in. or $1\frac{1}{8}$-in. bore camshafts, use Gage No. 2852, which is 0.246-in. thick; for Reading short-needle machines with narrow or wide sinker head, or with knockover bit F-798-1, use Gage No. 5248, 0.3125-in. thick; and for Reading short-needle machines with catchbar levers mounted on top of cams (1940 type) use Gage No. 14470, 0.3435-in. thick.

19. Push the sinkers and dividers up to the verge plates and put the catchbar on with the catchbar in its back position, as when the sinkers are kinking yarn.

Then set the bar to its gage, and test the catchbar height by pushing sinkers back beneath it. Bring the catchbar forward carefully, and test carefully to be sure it does not crowd the sinkers and dividers against the verge plates anywhere in the length of the machine. Such crowding is the most common cause of the breakage of the sinker backs. There should be a clearance of the thickness of a divider when the catchbar is forward. If the catchbar drops when or after it starts back, the faulty action would be caused by the pressure against the sinker backs, provided the front catchbar cams are correctly timed.

The purpose of the foregoing description of the erection of many of the main elements of a full-fashioned knitting machine is to enable a fixer to understand more clearly why the machines are distorted by settling floors and excessive torsional strains, in order that the machines may be quickly and accurately restored to correct alignment when troubles develop. Subsequent chapters will discuss the various mechanisms, their proper adjustment, and corrective measures to be taken when faults occur.

FIXING HOSIERY MACHINES

CIRCULAR MACHINES—Chapter II. Adjusting Stitch and Tension

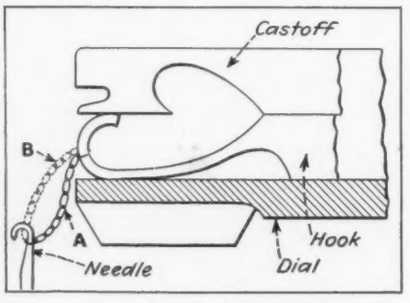
By JULIAN W. HUGHES

IF CIRCULAR-KNIT HOSIERY is to fit smoothly and neatly, the fabric must have good elasticity. The elasticity of a knitted fabric is affected by length of the loops. This in turn is governed to a considerable extent by the tension on the yarn. To lengthen the loops and make a looser fabric, either the cylinder or the cam block, according to the make of machine, is lowered by an adjusting screw so the stitch cam will draw the needles farther down. To make shorter loops and a tighter stitch, the procedure is reversed. The firmness of the double sole, heel and toe, and other parts of the stocking is regulated by individual tension screws.

For straight tubular fabric, such as rib tops, the number of courses per inch should be about 1½ times the number of needles per inch if the fabric is to be of the proper elasticity. However, in the case of women's seamless stockings this rule cannot be strictly followed. This is due to the fact that loops in the foot and ankle must be shorter to make these parts of the stocking smaller in circumference than are the calf and welt. This means that there are more courses per inch where the loops are shortest. The various tension screws controlling the other parts of the stocking must be proportioned to the foot. It is good practice to run 24 courses per inch in the foot on machines of 200 to 240 needles.

Sometimes knitting yarns are run that are too fine or too coarse for the needle gage. This has the same effect as knitting the loops too long or too short. If the yarn is too fine for the gage, the loops will be too open and the fabric will be sleazy, just as they will if the loops are too long. On the other hand, if the yarn is too coarse for the gage, the loops will be close and dense, and the fabric will be stiff and unyielding, just as it will if the loops are too short. Knitting hosiery with yarn counts not suited to the needle gage is a poor practice and should be avoided if possible. If it is unavoidable, the thing to do is to lower or raise the cylinder or cam block to get better texture and then adjust the pattern chain to obtain the proper foot and leg lengths.

RIBBED TOPS. It is important that ribbed tops for half hose should have as much elasticity as possible. To obtain this, the dial on the ribber must be set in proper relation to the cylinder. If it is set too high, the tops will be flimsy and lifeless; if it is set too close to the cylinder, they will lack sufficient elasticity. A rib top should be about 3 in. wide, and should spring back to its original size without distortion after being stretched to a width of 4 in.



Courtesy Scott & Williams, Inc.

Fig. C2. On automatic-transfer machines the dial should be so set that during the make-up operation the welt sags inward as at *A*; if the dial is set too high, as indicated by position of welt shown at *B*, poor tops and make-up trouble will result

When covered-rubber elastic yarn was first introduced for use in ribbed tops, it was thought necessary to knit this yarn under high tension to make it effective. Even today it is not uncommon to find anklets and men's half-hose with the elastic tops knit so tightly that they are about half as wide as standard. This is entirely too tight. Tops containing elastic yarn should conform as nearly as possible to standard width. Otherwise, they will be so tight on the leg that they will be uncomfortable and may irritate the skin.

It is a good idea for fixers of hand-transfer machines to examine the tops regularly as they come from the ribbers. If the tops are found to be lacking in elasticity, this can be brought to the attention of the ribber fixer.

Some fixers of automatic-transfer machines—on which the hose is knit complete with ribbed top—have a tendency to set their dials too high. This practice facilitates knitting to some extent, and may save a small amount of yarn; however, it produces an inferior ribbed top and is responsible for make-up trouble, such as the loops of the make-up course working off the dial hooks before they can be transferred to the needles. The correct relative position of the dial is that illustrated in Fig. C2. The dial should be so set that during the make-up operation the welt sags inward as at *A*. If the welt is in position shown at *B*, the dial is set too high, and the result will be poor tops and make-up trouble, as previously mentioned.

Fixers of Scott & Williams Model K machines for women's seamless hosiery should not resort to the practice of turning the tube screw to change to the next larger or smaller foot size. Although this method is less trouble than adding or taking out one or two links of the pattern chain, it should not be condoned. The tube screw is provided for adjusting the stitch in the foot and ankle by lowering or raising the needle cylinder. It is readily apparent that raising the cylinder to make a longer foot will result in a loose-fitting ankle. On the other hand, lowering the cylinder to make the foot shorter will result in an ankle which is too tight.

Fixers of Model K machines should not overlook the little matter of tension on the outside and inside welts. Ordinary cotton or lisle yarn is sometimes used for the inside welt of service-weight silk hosiery. During the wet processing of the hosiery the cotton shrinks more than the silk. Therefore there should be more tension on the silk in the outside welt to allow for this unequal shrinkage. Otherwise the outside welt will be flabby and will not finish smoothly.

On any model of knitting machine a fixer will save himself trouble by an occasional check of the yarn stands and yarn fingers. The yarn guide and various eyelets through which the yarn passes may have grooves worn in them, the tension disks may be clogged with lint, or the yarn fingers may be falling too low through a maladjustment of the throat plate. Any one of these conditions will cause an excessive tension on the yarn which may be sufficient to make distorted stitches. Likewise, the oil cups that supply the wicks over which the heel and toe yarns pass should not be forgotten.

(The next installment of this series will discuss the systematic oiling and inspecting of parts.—Editor)

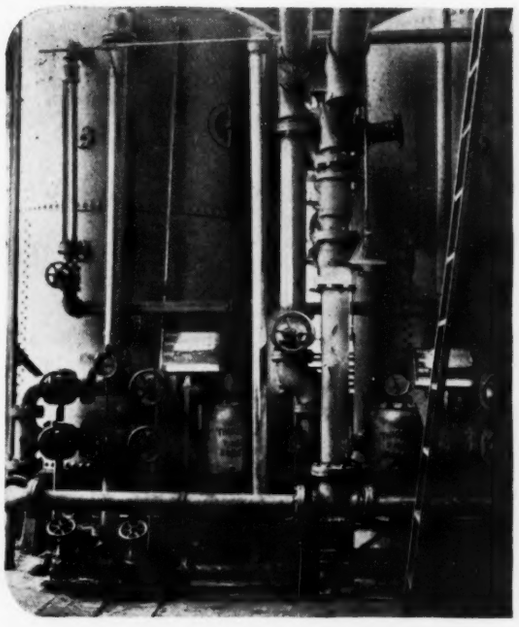


Fig. 2. (left) Two of the four zeolite tanks for softening water. Fig. 3. (right) Wooden tank for holding reclaimed brine and small mixing tank for concentrated solution

Brine-Recovery System

Installed at Eavenson & Levering plant lowers chemical cost for treating water

By C. C. HARRINGTON

IN ANY MILL where a large volume of water has to be treated before it is used for boiler-feed and process purposes, a sizeable reduction in treating will result in an appreciable saving in dollars and cents. This proved to be true at the Eavenson & Levering Co. wool scouring and carbonizing plant in Camden, N. J., where the installation of a reclaiming tank, a few feet of pipe, and a pump is now saving 800 lb. of salt each day.

Water for the Eavenson & Levering plant is pumped from three deep wells. This water varies in hardness from 6 to 9 grains per gal. To soften the water for boiler and hot process use, it is passed through a battery of four closed steel zeolite tanks. Each tank has an approximate capacity between regenerations of 75,000 gal.; and a total of some 400,000 gal. is treated every day.

When a softening tank indicates a need for regeneration, it is taken off the line and backwashed at the rate of 200 gal. per min. in order to loosen up and clean the materials. Then a strong 10° Bé. solution of salt is passed through the tank to regenerate the zeolite. Formerly the brine, after passing through the tank and losing most of its strength, was piped directly to the sewer.

Realizing that this wasted brine might have sufficient salt concentration to warrant saving, Mr. Lofft, chief engineer of the plant, checked several samples of the waste brine and found that it still retained a salt concentration of from 2 to 3° Bé. This was well worth saving.

The present regeneration cycle, which includes the reclaiming feature, operates as follows: After a tank has been backwashed, the reclaimed brine from a former cycle is drawn from the new recovery tank, passed through the zeolite, and drained into the sewer. Thus, the salt is completely exhausted from the brine before it is discharged. This partly regenerates the zeolite. Accordingly, it requires a smaller amount of concentrated brine to complete the regeneration. As this concentrated brine passes through the zeolite, following the weaker brine, instead of flowing into the sewer as formerly, it is now pumped up to the recovery tank. There it is held ready to be used as the initial regenerator for the next zeolite tank. The wooden recovery tank is mounted high, so that the brine flows by gravity to the softening tanks.

Fig. 1 is a schematic diagram of the salt-reclaiming system. Fig. 2 shows two of the four zeolite softening tanks. Fig. 3 illustrates the wooden tank for holding the reclaimed brine and a small tank for mixing the concentrated brine.

Whereas water treatment formerly required 2,400 lb. of salt daily, 1,600 lb. now completes the treatment just as effectively. With this saving each day, it required but a short time for the new equipment to pay for itself, and thenceforth institute an appreciable saving in the water-treatment bill.

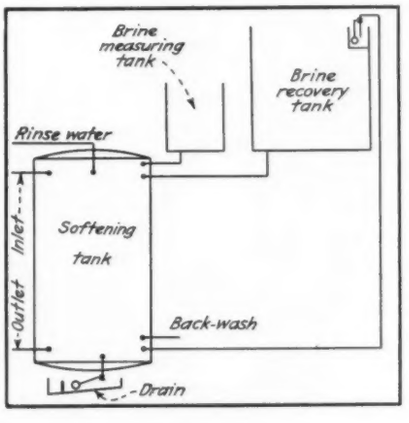


Fig. 1. Schematic sketch of salt-reclaiming system

Textile Schools Graduate

Nearly 300 "potential executives" this year. Majority are placed in industry

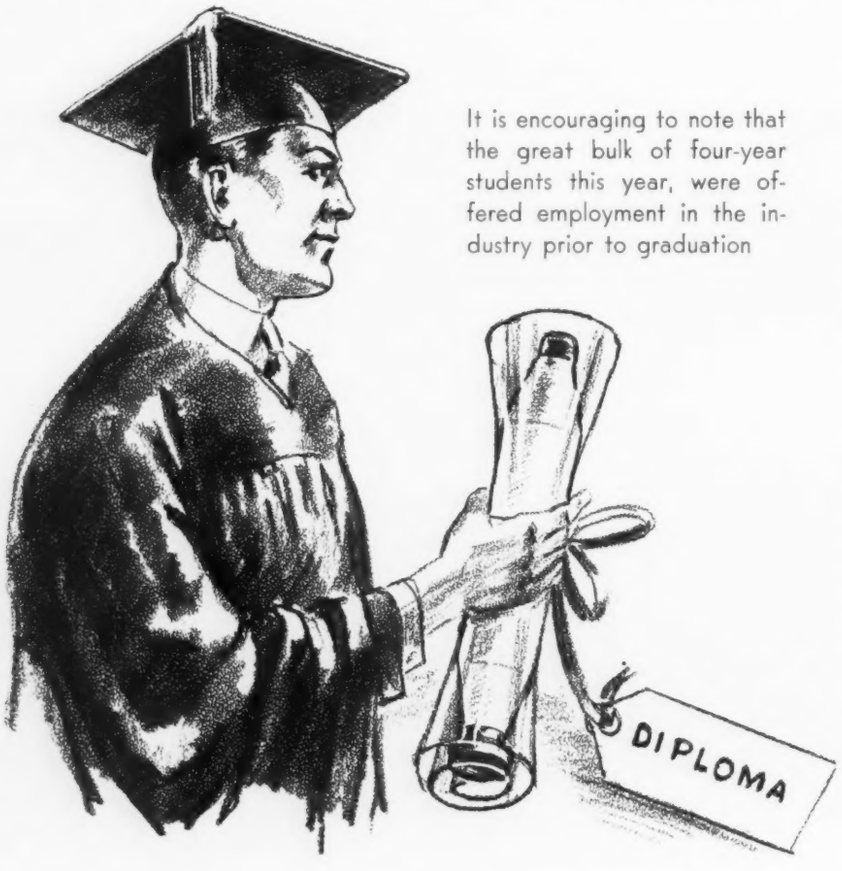
NEARLY 300 STUDENTS were awarded four-year diplomas by U. S. textile schools this year, not to mention hundreds of certificates given for special work. In addition, several textile high schools and numerous mill-sponsored vocational classes turned out a great many trained workers. All of this seems to indicate that there will be no shortage of potential textile executives in coming years. It also is encouraging to note that the great bulk of four-year students were offered employment before graduation.

Brief facts concerning the graduations at the different schools are presented below:

Alabama Polytechnic Institute, Auburn, Ala., Textile School. Graduated 13 students, all of whom have been placed in the industry. Hulett Lasseter King, Jr., of Huntsville, Ala., was cited as having the highest four-year average grades. It is expected that eight more students will graduate in August.

Bradford Durfee Textile School, Fall River, Mass. Awarded 31 diplomas and 10 certificates to day school graduates. Evening class received 32 diplomas and 356 certificates. National Association of Cotton Manufacturers medal awarded to Norman Browne Grime. Scholarships of $50 a year went to Raymond Guay, Paul H. Gollis, Edward F. Hughes and Saul Nulman. Awards of $50 each for high scholastic standing given Malcolm L. Phillips and Walter A. Sunderland. Special award of rayon handbook was made to J. M. Roberts, outstanding evening school graduate.

Clemson Textile School, Clemson, S. C. Graduated 57 students, of whom 50 had been placed in the industry prior to graduation. Remainder expected to be placed immediately, as the school had on hand requests for 40 additional boys at this writing. John Gaines Hammond, of Greenwood, S. C., received N.A.C.M. medal. Textile Colorist award went to Richard A. Martinell.



It is encouraging to note that the great bulk of four-year students this year, were offered employment in the industry prior to graduation

Georgia School of Technology, Atlanta, Ga., graduated 25 students, all of whom have been placed in industry. Edmund B. Kniesel, of Atlanta, Ga., won the National Association of Cotton Manufacturers medal. John Turner Jones, of Canton, Ga., received the Cotton Manufacturers Association of Georgia award.

Lowell Textile Institute, Lowell, Mass. Graduated 30 students with bachelor degrees and six with master's degrees. Six received diplomas. John A. Goodwin, of Lowell, Mass., was awarded the N.A.C.M. medal. Arthur S. Davis received the Louis A. Olney book prize.

New Bedford Textile School, New Bedford, Mass. Graduated 27 diploma students and awarded many certificates for special work.

North Carolina State College, Raleigh, N. C. Graduated 63 students with bachelor degrees in textile courses and awarded two masters degrees. Over 90% of the students were placed in industry before graduation. At the graduation exercises, Charles A. Cannon, president of Cannon Mills Co., Kannapolis, N. C., was awarded honorary degree of Doctor of Textile Science.

Philadelphia Textile School, Philadelphia, Pa. Dr. E. W. France, retiring director, as the last official act of his 56 years service, awarded diplomas to 40 graduates in the regular textile courses. Thomas Augustus Fields was awarded the N.A.C.M. medal. A large number of certificates were awarded students attending both day and evening classes.

Texas Technological College, Textile Engineering Department, Lubbock, Texas. Graduated four students, all of whom have been placed in the industry. Lloyd Jackson, of Lubbock, was high ranking textile student.

Wool Scouring Starts in Texas

Local industrialists hope that wool manufacturing plants will follow in turn

By W. R. HUNT

THE FIRST BATCH of wool ever scoured in a commercial plant in Texas was handled by the Cen-Tex Wool & Mohair Co., San Marcos, Texas, last March. The first day's run was a consignment of 10,000 lb., received from six Texas producers. This new plant has facilities for handling about 1,800,000 lb. of wool a year, and in mid-June had 500,000 lb. of wool and mohair awaiting processing.

On June 12, Governor W. Lee O'Daniel dedicated the Cen-Tex plant as part of the program of the first annual Texas Wool and Mohair Exposition, which included a sheep shearing demonstration, a demonstration in grading wool, and a wool show. Over 2,000 persons attended.

In 1910, Texas produced 12,690,000 lb. of wool; in 1920 almost 23,000,000; in 1930, over 48,000,000; in 1938, the last year for which exact figures are available, almost 80,000,000. Since 1910, Texas wool production has doubled every ten years, now amounting to 21% of the domestic clip. The domestic clip supplies only about half of the country's annual wool needs. Normally more than half of our cotton crop finds its use outside of the country. The war threatens our overseas supply of wool, while it fixes a limitation on our overseas outlets for cotton. Texas cotton farmers see a logical opportunity to cut down cotton production, and increase wool.

Most Texas wool is shipped to New England for scouring. Freight paid on dirt and grease in this wool is estimated at $750,000 to $1,000,000 annually, such waste amounting to about 40,000,000 lb.

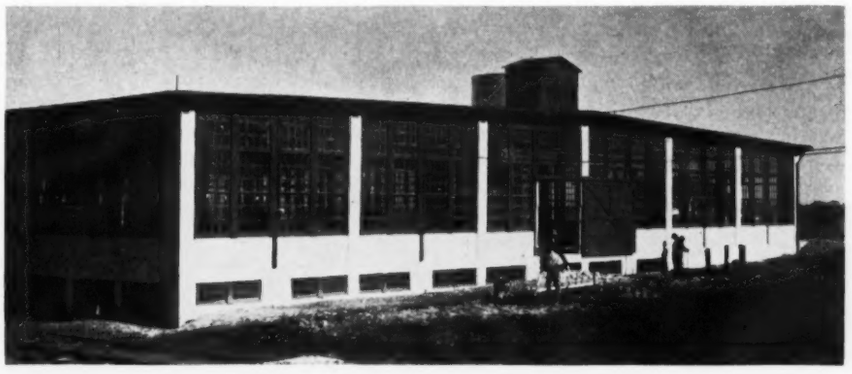
Although there are many grades of wool, for years Texas wool producers knew only two: burry wool, and wool free from burrs. All buying was done at central points on a "hog-round" basis; that is, buyers determine the average for a locality and buy on that basis. When selling scoured wool, Texas growers believe they can get the full price which the grade justifies. Local industrialists now hope to attract wool manufacturing enterprises to Texas.

The Cen-Tex Wool & Mohair Co. was organized in early 1939, with Walter E. Haby, president; Lon H. Bowden, chairman of board; L. B. Rae, executive vice-president; Dr. J. C. Godbey, vice-president; William H. Knowles, general manager and C. M. Dismukes, Jr., secretary-treasurer. Mr. Haby is a rancher and a large producer of wool and mohair. Mr. Knowles has 40 years experience in the wool industry and is the fourth generation of his family in that business. Many stockholders are ranchers and wool producers.

The firm's building contains 65,000 sq.ft. of floor space, has its own railway siding. The upper floor is used for storing and grading, while the machinery for scouring is on the lower, or basement floor. On account of difference in ground level, trucks can be loaded or unloaded direct from either floor.

The Cen-Tex company will buy wool outright, or handle on a consignment basis. Some wool may be sold in the grease, but on grades where scouring will result in a profit to both producer and the plant, such wool will be properly graded and scoured before selling.

Other similar enterprises are under consideration. Last February some people from San Antonio got a conditional lease on a building at Marble Falls, Texas, as a possibility for the second wool scouring plant. For some time San Angelo has considered the possibilities of a wool plant, and several publicity firms say they have already been consulted on possibilities of promoting plants for making wool blankets, felt hats, knitted woolen wear and other wool products.



Cen-Tex Wool & Mohair Co.'s scouring plant at San Marcos, Texas; 180x250 ft., with railroad siding

Governor O'Daniel of Texas delivering dedicatory address at Cen-Tex plant

Dyeing With Pigments

Two methods employed in production of bookcloth, awnings, and similar fabrics

By JOHN T. GIBBONS

Interest in pigment-dyeing methods has been stimulated by numerous mill experiments carried out during the last year or so on the production on cotton piece goods of solid-color effects with resin-pigment colors and with resin-solvent solutions of ordinary dyes. It is believed, therefore, that many dyers will be interested in the following description of two older methods of pigment dyeing which have been employed for many years, but which are not widely known in the industry.

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PIGMENTS HAVE BEEN EMPLOYED for many years in dyeing certain types of cotton fabrics. The pigments used are minerals and are entirely different from the synthetic dyes with which most dyers are familiar. In the past, two general methods have been followed in applying the pigments.

In the first method the fabric is treated with a solution of mineral salt, dried, and then run through a bath of another mineral salt which precipitates a compound into the fiber. Dyeings obtained are fast to light, washing, weather, and alkali, but not to acids. They do not have the brightness obtained by regular dyes, and the pigments leave the fabric in a harsh condition, which can be overcome to some extent by use of softeners. This method is used in the production of bookcloths, window shades, tarpaulins, tent cloth, awnings, etc., where fastness to light is desired, and where the harshness of the fabric is not a disadvantage.

In the second method the pigment is ground in a dispersing medium and is then added to hot water in a mangle in the correct proportion to obtain the shade and depth of color required. With this method, some of the newer pigments which give brighter shades can be used.

Certain alizarine and acid dyes can be mixed with the mineral pigments to give the exact shades required and to improve brightness of the dyeing.

Some of the pigments are compounds of lead, copper, arsenic, mercury, antimony, etc. As these compounds are of a poisonous nature, they should not be used in materials which will come in contact with the skin.

The union between the fibers and the pigments is entirely mechanical, but the bond is very strong and the dyeings will stand repeated washings.

In the first method, the metallic salt is absorbed into the fiber by osmosis from the solution, and, when the cloth is run through the second bath, the precipitating agent is absorbed in the same manner, so that the mineral is contained within the fibers. For example, a khaki shade is obtained by use of oxides of iron and chromium in the correct proportion to give the right shade. The cloth is treated first with a mixture of the acetates of iron and chromium, which are applied in a padding machine, hot. Next the fabric is dried and steamed, and then treated with a boiling solution of caustic soda and soda ash. Similarly, a bright yellow can be obtained by use of lead salts in connection with potassium bichromate.

Choice of a dispersing medium is very important in the second method. The dispersing agent fulfills several roles. It acts as a medium for the dispersion, it holds the pigments in suspension if the mixture is allowed to stand for a long period, and —in the case of printing—it gives enough body to the mixture so that it can be used with printing rollers.

Yellow potato dextrin has proved to be a satisfactory dispersing agent, which is giving satisfactory results in a large majority of cases.

THE DISPERSING SOLUTION can be mixed in a tub of suitable size, using approximately 1 lb. of the dextrin to 3 lb. of water. After mixing, the dextrin is brought into solution by means of live steam. The pigments are now added to the solution and the mass is stirred until the mixture is uniform. The mixture is now ready for dispersion. The ratio of pigment to dextrin varies according to the pigment used, for instance, Prussian Blue requires a larger amount of the dispersing agent than do softer pigments.

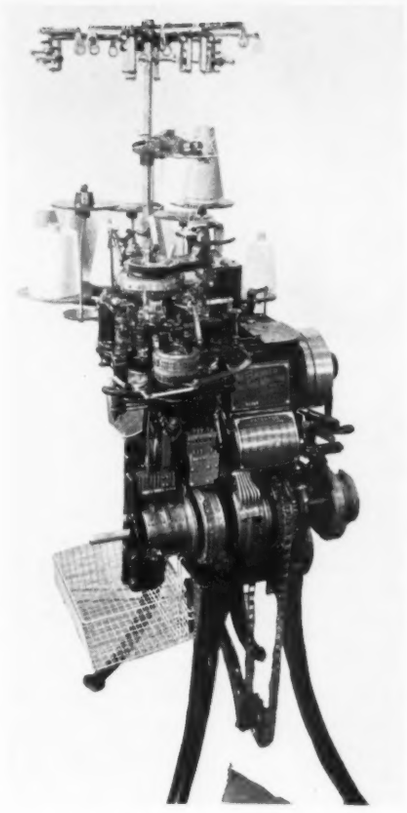
The mill used for the grinding or dispersion can be a stone mill or a colloid mill. The stone mill is employed to a great extent, but if the batches are large, a colloid mill is useful. One run through the mill is sufficient for most colors, but some of the coarser pigments require a second run if smooth suspensions are to be obtained. If the dispersions are to stand for any considerable length of time, it is necessary to add a preservative to the mixture; generally carbolic acid, or a similar compound, is employed.

To prepare the dispersion for use, the required amount is weighed out and mixed with its own weight of hot water and, after thorough stirring, is filtered through flannel or felt. If the grinding has been carried out properly, practically no particles will be left in the filter cloth. This filtered dispersion is then put into hot water in the mangle and the patches are taken to shade. If more color is required, it is added. If the shade is too heavy, more water is added to the mangle until the right shade is obtained. The cloth is then run through the mangle and is framed and dried.

The pigment method is also suitable for bluing white goods. For this purpose an ultramarine blue is ground into the dextrin. A few ounces of this mixture is used in the mangle, the exact amount required being determined by making patches.

Pigments are applied in a mangle and cloth then framed and dried

TEXTILE EQUIPMENT NEWS



For knitting children's hosiery (Hemphill)

Knitting Machine For Children's Hosiery

Hemphill Co., Pawtucket, R. I., has developed a hosiery machine known as Model 31 (exhibited at the Philadelphia Knitting Arts Exhibition), designed to provide a simple device to produce hosiery having simulated rib, elastic tops ornamented by tuck or plating patterns, or combinations of both. Such stocking tops are especially desirable in children's wear. The machine has but a single main yarn feed and an elastic yarn feed. Elastic yarn is inlaid with sinkers so controlled as to have elastic drawn over their nibs, the same being dropped from the nibs prior to the needles approaching the main knitting station. This system allows a maximum length of elastic to be inlaid at each elastic feeding revolution of the machine. Advantages cited are a maximum of stretch in the top and needles in proper alignment. The edge of the product is characterized by a series of tuck stitches drawn from non-elastic yarn, which resists curling.

According to the character of ornamentation desired, tuck stitches may be knitted, but probably plating in combination with floating is most prevalent. Control of the plating and floating or tucking is accomplished by selection of needles just prior to knitting at the main feeding station of the machine, and this selection is accomplished by eight pattern steps functioning on jacks beneath needles.

Dye-Beck Reel

A new type dye-beck reel said to eliminate slipping of fabrics, rub marks, and wrapping of reels has been introduced by Riggs & Lombard, Inc., Lowell, Mass. Featured is the multi-grip surface with which the reel has been equipped. This is designed to grip the fabric at many minute points, distributing the lift over a large area, and minimizing strain at any one point. It is said to hold fabrics firmly, without cutting or damaging them in any way. The machine, and a close-up of the new reel surface, is shown in the accompanying illustration.

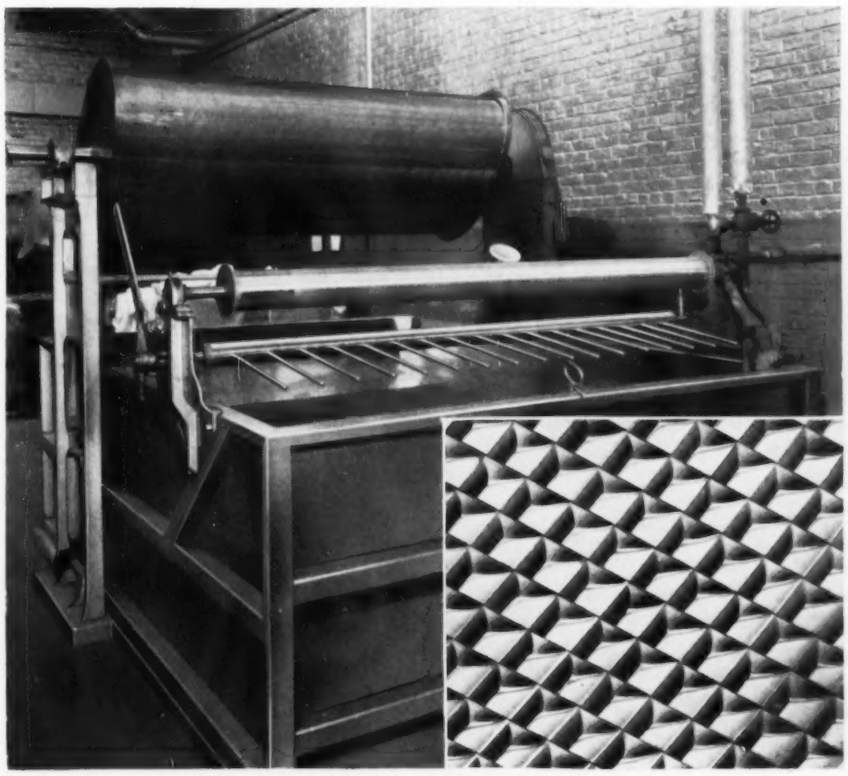
The reel, which is fabricated from stainless-steel, is said to eliminate the necessity of lapping or covering, thus making possible speeding up of color changes. It is of drum-type construction, and can be applied to dye becks already installed, and to new equipment.

Narrow-Beam Warper

Cocker Machine & Foundry Co., Gastonia, N. C., has recently announced high-speed, narrow-beam warper units, for preparing beams for flat knitting or for weaving of fabrics of relatively narrow widths. Each complete unit consists of a narrow-beam warper head, an eyeboard stop motion, and magazine creel of either vertical or horizontal type, for handling of either cones or spools.

Beams made by the machine have maximum dimensions of 14-in.-diameter heads, 4 1/8-in.-diameter barrels, and 17-in. between beam heads. The eyeboard stop-motion operates in connection with a remote control knock-off device and a magnetic quick-stop brake. A special arrangement makes it possible to back up the beam if a broken end should reach it, and assures straight rewinding on to the beam after the broken end has been tied.

An automatically-controlled, motor-

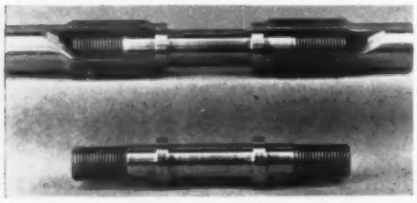


Multi-grip surfaced dye reel (Riggs & Lombard, Inc.)

drive, variable-speed transmission unit operates in combination with a levelling pressure drum, and is said to assure level, smooth beams of uniform density. The machines are equipped with a yardage-counting clock, and a device which stops the machine automatically when the predetermined number of yards have been warped. The units are of heavy design and construction, with all moving parts mounted in ball bearings. Push-button stations for starting and stopping the machine are conveniently located at several points.

Double Screw-Coupled Rolls

To eliminate swelling of bosses resulting from driving round ends into spinning-roll holes so tightly that they cause the last boss on each section to swell, Whitin Machine Works, Whitinsville, Mass., has announced through its Southern Repair Shop a new double screw-coupled roll neck for roving and



Double screw-coupled rolls (Whitin)

spinning. Made of high-carbon steel, the neck is heat-treated to a greater depth than normal and is ground all over with precision grinders and inside with internal grinders. The neck can be applied to any type of fluted or twister roll with the exception of comber detaching rolls.

Advantages claimed for the new roll include the following: rolls are positively concentric; no loose squares; necks readily replaced when worn; greater accuracy in overall length; elimination of cracked or split female ends; deeper penetration of case; lower upkeep cost; collar positively prevents roll from creeping and binding stands.

Varnish for Rollers

A new roller varnish, said not to become tacky or otherwise affected when exposed to moisture, has been introduced by H. H. Hersey, Greenville, S. C. Additional advantages cited are that the varnish repels static and does not lick up, contains no acid and hence has no objectionable acid odor, is easy to apply, and does not become hard.

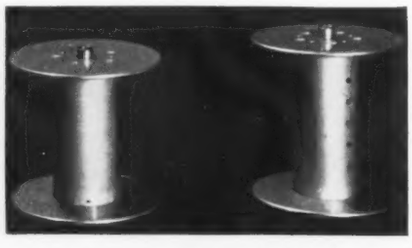
Cotton-handling truck (Clark)

Cotton Handling Truck

Four bales of cotton can be carried simultaneously up an 18" grade and one operator can unload a freight car in two hours with the new heavy-duty Carloader utility truck, according to the manufacturers, Clark Tructractor Division of Clark Equipment Co., Battle Creek, Mich. In addition, this truck will stack bundled and baled material ceiling-high, and is said to be useful for handling heavy beams on slashers or warpers. The truck is designed for loads to 7,000 lb., and tiers its loads to 108 in. in 25 sec., it is stated. It is gas-powered for 24-hr. operation.

Magnesium-Alloy Bobbins

Several different types of precision-built bobbins of magnesium alloy, with bakelite, aluminum, stainless steel, or fiber heads are now being offered by Lestershire Spool & Mfg. Co., Johnson City, N. Y. Typical of these bobbins are the take-up steaming bobbins illustrated. These have magnesium-alloy barrels and aluminum or stainless-steel heads. There obviously is no wood in these bobbins to be affected by steaming, and the heat conductivity of the alloy is said to be such that the yarn receives maximum protection from injury.



Magnesium-alloy bobbins (Lestershire)

Improved Piece-Dyeing Machine

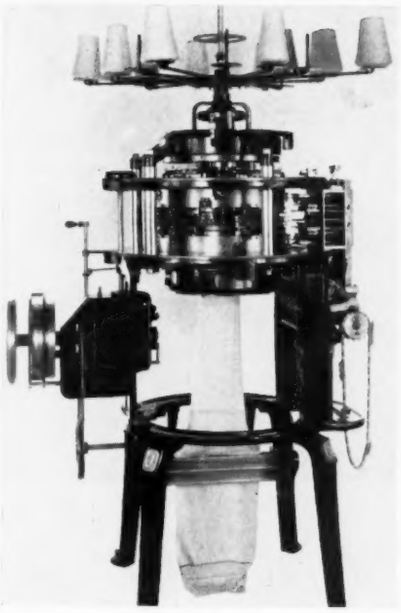
A piece-dyeing machine in which the full-width cloth is rotated by means of an endless conveyor instead of a roller has recently been introduced by E. Gordon Whiteley, Morley, Yorkshire, England. The arrangement is said to be particularly advantageous in preventing creases and other defects in tropical worsted fabrics, and other cloths firmly woven with hard-twisted yarns.

It is pointed out that a greater area of fabric is in contact with the conveyor than would be with a roller. The extra control thus obtained is said to make possible movement of the cloth through the dye liquor at high speeds, to relieve cloth not in the liquor of excess strains, to eliminate slippage of the cloth, and to prevent tangling which sometimes results when two or more fabrics are dyed side by side in the same machine.

Baby-Shaker and Interlock Machines

Two new machines manufactured by Jacquard Knitting Machine Co., G & Lycoming Sts., Philadelphia, were introduced at the Knitting Arts Exhibition held a few months ago. They are a low-cost jacquard machine said to make possible production of new styles in baby-shaker sweaters, and a machine for knitting of interlock fabrics.

The baby-shaker machine is available in diameters increasing in increments of 1 in. This, it is said, makes it possible to knit garments to fit in all sizes. It is pointed out that cutting and sewing up the sides of garments, and sewing and looping on the rib bottoms, are obviated. This, in turn, is said to make



Baby-shaker machine (Jacquard)

possible savings in labor and reductions in waste.

The interlock machine has 24 feeds, revolving cylinders, and stationary bobbins. The manufacturers point out that its cost is less than that of buying old machines and converting them to production of interlock fabrics; and that, in addition, with the new machine production is about doubled, there are savings in labor costs, floor space, repairs, etc.

Cloth Washer

A full-width or open-type, all purpose washer is a late development of Textile-Finishing Machinery Co., Providence, R. I. The machine is designed to simplify most warp-tension-control problems encountered in former models. Each nip is individually driven by a synchronized motor, the speed of which is controlled by a separate compensator and rheostat.

It is stated the washer is adapted to numerous uses, and will handle a wide range of fabrics from delicate rayons and voiles to heavier cottons, mixed fabrics, and linens. Production ranges from 12½ to 125 yd. per min., depending on type of fabric and conditions of operation. Elimination of side shafts and gears allows easy access to wash tanks, for inspection of fabric or liquor, and is said to give ample protection against accidents.

Staple Fiber Cutter

The redesigned and improved staple fiber cutter currently being introduced by Whitin Machine Works, Whitinsville, Mass., includes several new features, it has been announced. The machine can be used to cut filament rayon, rayon tops, wool tops, mohair, ramie, and other fibers into staple lengths of from ½ to 8 in. These materials can be handled wet or dry: fluted or smooth steel rolls are used when dry fibers are to be cut, and instantly interchangeable rubber squeeze rolls are used for wet cutting. The cutter is available with either two or four 12 in. blades, as desired. Its average speed ranges from 175 to 225 r.p.m. depending upon operating conditions.

Staple-fiber cutter (Whitin)

Useful Accessories for Textile Mills

Solenoid and Relay. General Electric Co., Schenectady, N. Y., has recently developed an inexpensive solenoid valve which can be used as a water control for humidifiers or washing equipment, oil shutoff for oil-burners, pilot-gas control for gas burners, air control for compressed-air devices, or for evaporative cooling equipment.

Another late G.E. announcement concerns a relay for controlling a stoker in conjunction with time switch, limit controls, and room thermostat. It can also be used as a relay for blower motors of unit heaters controlled from room thermostat, as a relay between room thermostat and condensing unit in central-plant cooling systems, or as a relay between humidistat and humidification systems.

Photoelectric Controls. United Cinephone Corp., Long Island City, N. Y., is announcing a new line of photoelectric controls. Designated the No. 60 series, these controls are said to be useful for solving reliably and economically regulating, counting, signalling, and sorting problems.

Spray Painting. DeVilbiss Co., Toledo, Ohio, has announced a new series of small spray painting outfits. The line consists of five spray equipment assemblies; three are cup-gun outfits and two include a pressure-feed paint tank of 2 gal. capacity. All are operated by standard ¼ hp. motors.

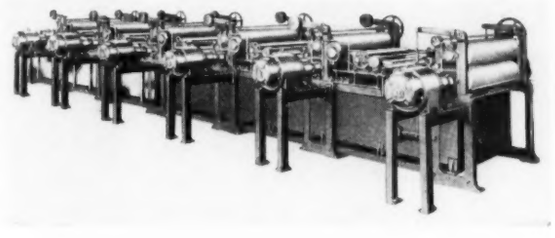
Time Stamp. International Business Machines Corp., 270 Broadway, New York, has announced the addition to its line of a low-cost time stamp, known as Printime. The throat of the new stamp has a depth of four inches from the edge of the date line, which indicates in a straight line the year, month, date, hour, and minute, A.M. and P.M.

Stainless-Steel Electrode. Lincoln Electric Co., 12818 Coit Road, Cleveland, is introducing a new stainless-steel electrode for use in arc welding stainless steel of the 25% chromium, 20% nickel type; as well as for welding various stainless steels to mild steel and for welding of steels which are air hardening and cannot be heat treated after welding.

Test Gage. Ashcroft American Gauge Division of Manning, Maxwell & Moore, Inc., Bridgeport, Conn., has recently announced a new finely adjusted laboratory test gage for checking the accuracy of pressure gages. Accuracy is guaranteed to within ¼ of 1% of the scale range.

Chemical Pump. Nash Engineering Co., South Norwalk, Conn., has introduced a Pyrex glass pump for handling corrosive acids and chemical fluids; the impeller and casing are not affected by temperatures up to 150° F. in standard design and 200° F. in special design.

Sound-Level Meter. General Radio Co., Cambridge, Mass., announces an improved model sound-level meter. The new instrument is suitable for measur-



Full-width cloth washer (Textile-Finishing)

ing the noise generated by machines, and features accuracy, rugged construction, convenience in operation, and portability.

Motor Lubrication System. U. S. Electrical Motors, Inc., Los Angeles, Cal., has developed an oil lubrication system for certain of its motors larger than 30 hp., 3,600 r.p.m. and 75 hp., 1,800 r.p.m. A feature is an oil gage marked with maximum and minimum level. Longer bearing life and reduced maintenance costs are cited as advantages.

New Dyes and Chemicals

Resin Finish

Development of an emulsion blend of synthetic resins for production of low-cost finishes for cotton and rayon piece goods has been announced by Calco Chemical Division, American Cyanamid Co., Bound Brook, N. J. The new product, known as Aerotex Resin 105, is recommended particularly for finishing such fabrics as percales, sheetings, shirtings, broadcloths, poplins, and certain draperies and drills. It can be applied to white, printed, discharge-printed, or plain-dyed goods. It is stated that Aerotex Resin 105 does not cause any yellowing of whites or dulling of colors when used in normal amounts and under normal finishing conditions. The compound is compatible with starch, sulphonated oil, and various other finishing materials. Practically any hand can be obtained by modifications of the method of application.

When applied to rayon-cotton mixtures and to goods made of rayon or spun rayon, Aerotex Resin 105 imparts a full, crisp hand. A softer hand is produced by adding non-odor-developing sulphonated oils or alkaline wax emulsions to the batch made slightly alkaline with ammonia.

Aerotex Resin 105 can be mixed cold and applied cold, although a temperature of 120 to 130° F. is recommended for regular plant practice. No boiling is required. After padding, the goods are dryed, a temperature of 250 to 260° F. being employed to set the resin and thereby render to finish resistant to repeated launderings.

General Dyes

General Dyestuff Corp. announces the following new products:

Benzoform Red 7B, a direct dye suitable for aftertreatment with formaldehyde; dyeings possess fairly good fastness to washing; good dischargeability; and very good fastness to water, sea water, perspiration, acid, and alkali.

Benzo Viscose Blue RS, a direct dye which on vegetable fibers produces a bright reddish shade similar to a Royal Blue; dyeings have very good dischargeability, and fairly good fastness to washing; aftertreatment with copper sulphate improves the fastness to light, but renders the shade redder and duller; the dye is fairly stable to aftertreatment with formaldehyde without being improved in fastness to washing, and can be used in conjunction with Benzoform colors on rayon.

Celliton Fast Yellow 3GA, an acetate color yielding a bright, greenish yellow shade which possesses good to very good fastness to light and rubbing.

Finishes for Nylon Hosiery

Four new compounds for use in knitting, dyeing and finishing Nylon hosiery have been announced by Laurel Soap Mfg. Co., Inc., Philadelphia. They are: (1) Laurel Nynit C, a lubricant and conditioner designed to yield better knitting and an even stitch and to prevent sticking in the preboarding operation; (2) Laurel Supergel TB, a scouring agent for removing size, grease, and dirt previous to dyeing; (3) Laurezol No. 6, a dispersing agent for increasing penetration and aiding production of level shades; (4) Laurel Paramel, a permanent finish for imparting a smooth, desirable body which will withstand repeated washings.

Sanforizing Agent

A combined wetting and finishing agent for use in conjunction with the Sanforizing process has been announced by Alrose Chemical Co., Providence, R. I. This compound, called Sanfosist, is described as a complete product which combines both a durable finish and a powerful wetting agent. It is stated that cloth can be treated with Sanfosist and held over for an indefinite period before Sanforizing without appreciably losing its re-wettability. The method of application can be varied to suit practically all fabric constructions. In many cases it can be applied in the desizing bath, thereby eliminating one finishing operation. The manufacturer states that cloth which has been first treated with Kiersist in the kier-boil and then finished with Sanfosist will Sanforize with a markedly lower shrinkage loss.

Water-Treatment Compound

For removal of silica from boiler feed water W. H. & L. D. Betz, Philadelphia, have announced the Adsorption Process, which utilizes Remosil (a specially prepared magnesium oxide). This process is said to reduce soluble silica in any natural water to a fractional part per million while actually reducing, rather than increasing, the total solids in the water. Silica removal is effected in hot-process softeners.

Detergent and Wetting Agent

Development of a new type of detergent and wetting agent is announced by Michael Export Co., 90 Broad St., New York. This material, known as Alframine DCA, is described chemically as a sulphonation product of a high molecular aldehyde condensate of the aliphatic series. It is supplied in the form of a yellowish white powder. Textile applications include the following: scouring of all kinds of textile goods before and after dyeing, removal of spinning oil before dyeing, desizing, as a dyeing assistant, and for removal of lime soap spots from textile goods. Properties cited for Alframine DCA include its detergent, emulsifying, wetting out, and softening powers; and its resistance to acids, alkalis, lime, magnesium salts, and glauber salt.

New Publications

Dyers' Guide

MODERN METHODS OF DYEING: E. W. Pierce, Ciba Co., Inc., Greenwich & Morton Sts., New York, 1940; for limited distribution.

Dr. Pierce, who is technician with Ciba Co., has been connected with the dye, chemical, and textile industry for many years. He not only is one of the outstanding authorities in this country on dyeing of textiles, but also has the facility of imparting his knowledge to others in a clear and concise manner. The first part of this book is devoted to

here's why I specify Teca*

*Eastman crimped acetate rayon

TECA CONTROLS SHRINKAGE
A fiber with low moisture absorption, Teca undergoes little or no change when washed or cleaned. A high Teca content stabilizes a fabric, retarding its shrinkage.

TECA IS CRUSH RESISTANT
and sag resistant. A unique characteristic is its crimp which, by a spring-like action, helps hold the shape of the fabric.

TECA INSULATES
or ventilates, depending on the weave. Its tiny crimped fibers build a texture which is microscopically porous.

TECA IS NON-IRRITATING
Teca has the inherent softness and suppleness typical of acetate rayon, is pleasantly smooth to the skin — non-scratchy.

TECA BLENDS WELL
with silk, wool, cotton or viscose rayon, offering almost limitless textural variety as well as novel cross-dyed effects.

Eastman

CRIMPED ACETATE RAYON

A. M. TENNEY ASSOCIATES, Inc., 10 East 40th Street, New York City. Sales representatives for the Tennessee Eastman Corporation, Kingsport, Tennessee, subsidiary of the Eastman Kodak Co.

a consideration of textile fibers and dyeing equipment, and the properties and applications of basic, direct, acid, chrome-mordant, sulphur, vat, and naphthol dyes. This material, which was published as a series of articles in *Cotton*, is based on a lecture course given yearly to newer members of the laboratory personnel of Ciba Co., Inc. The second part of the book contains lists of selected Ciba dyes suitable for a number of special purposes, an explanation of fastness ratings, and several useful tables.

Engineering Index

ENGINEERING INDEX, 55th Annual Volume; Engineering Index, New York.

The 55th annual milestone of this reference work was passed recently with the issuance of the new volume comprising 1,400 pages with 27,000 annotations and 40,000 cross-references. This encyclopedia of current data is drawn from 2,000 periodicals and reports published in the United States and 40 foreign countries. It is a "control" for the flood of technical literature in the engineering field.

For Textile Chemists

SULPHATED OILS; Burton and Robertshaw; Chemical Publishing Co., 148 Lafayette St., New York; 1940; $5.

This up-to-date book deals mainly with the analysis of sulphated products, including sulphated oils, sulphated fatty alcohols, and petroleum sulphonic acids. It includes also a historical survey and chapters on raw materials, methods of sulphonation, and the chemistry of sulphonation.

Guide Book for Business Men

INDUSTRIAL MARKET DATA BOOK; Dept. of Commerce, Washington; $2.50.

A new guide book for American business men, the "Industrial Market Data Book," containing vital information for establishing new sales territories, production quotas, and marketing campaigns, is now available for distribution, according to announcement from Department of Commerce.

The handbook, first of its kind ever published, contains complete figures of industrial production, employment, value of product, cost of material, fuel and power, and output per wage earner for each of the 3,070 counties in the United States, and similar data for every city of more than 10,000 population. The figures in the handbook pertain to 1935, the latest year for which information in this form is available.

The study is especially designed to aid sales and advertising executives in estimating sizes and locations of their markets together with the potential value of these markets. It was prepared as a cooperative study by the Bureau of Foreign & Domestic Commerce, the Census Bureau, and the Bureau of Mines.

Copies may be secured from the Superintendent of Documents.

Dangers Due to Static

INDUSTRIAL HAZARDS OF STATIC ELECTRICITY, by Harold Joe Davis; published by the author at 3927 E. Admiral Place, Tulsa, Okla.; 10-page booklet, 25c.

In this pamphlet the author describes how static electricity is generated, hazards which it causes in various industries, and methods for neutralizing and preventing static accumulations.

Answers to Packaging Questions

FOLDING PAPER BOXES, by James D. Studley; Bureau of Foreign and Domestic Commerce, U. S. Department of Commerce; obtainable from Superintendent of Documents, Washington, D. C.; 66 pages, 15c.

This booklet, which is No. 205 in the Department's Trade Promotion Series, was prepared to answer the many questions asked of the Department concerning folding paper boxes. It covers raw materials and manufacture of folding boxes; principal kinds; coloring, printing, and special finishes; reasons for use; and the economic status of the industry.

Tests and Specifications

A.S.T.M. STANDARDS, PART III (Nonmetallic materials—General); American Society for Testing Materials, 260 S. Broad St., Philadelphia; $8.00 to non-members; $5.50 to members, for extra copies.

The 1939 edition of this book will be interesting to textile men chiefly because it presents in cloth-bound form the Society's standards on textile materials. It contains, in addition, standards on electrical insulating materials, rubber, soaps and detergents, plastics, water, and a number of other products.

In all, 245 items, of which 130 are standard and 115 tentative, are included. Part I, covering Metals, and Part II, on Nonmetallic Materials—Constructional, are also available.

Technical Bulletins

DIAL-READING APPARATUS FOR THE DETERMINATION OF FIBER STRENGTH, by S. S. Sukthanker, N. Ahmad, and H. Navkal; DETERMINATION OF THE SWOLLEN DIAMETER OF COTTON FIBERS—Effect of Size of Sample on the Significance and Reliability of the Results, by R. S. Koshal and N. Ahmad; two bulletins published by the Indian Central Cotton Committee Technological Laboratory, Bombay, India; 1 rupee and 8 annas, respectively.

The first pamphlet describes the dial-reading apparatus and the construction, and explains how to manipulate it in determining fiber strength. The second describes the method of investigating fiber diameters by experiment, and includes a discussion of results and a summary. Both pamphlets are highly technical and should prove useful to anyone engaged in fiber research.

Statistics as Tools

PROCEEDINGS OF THE INDUSTRIAL STATISTICS CONFERENCE, Pitman Publishing Corp., New York; $2.50.

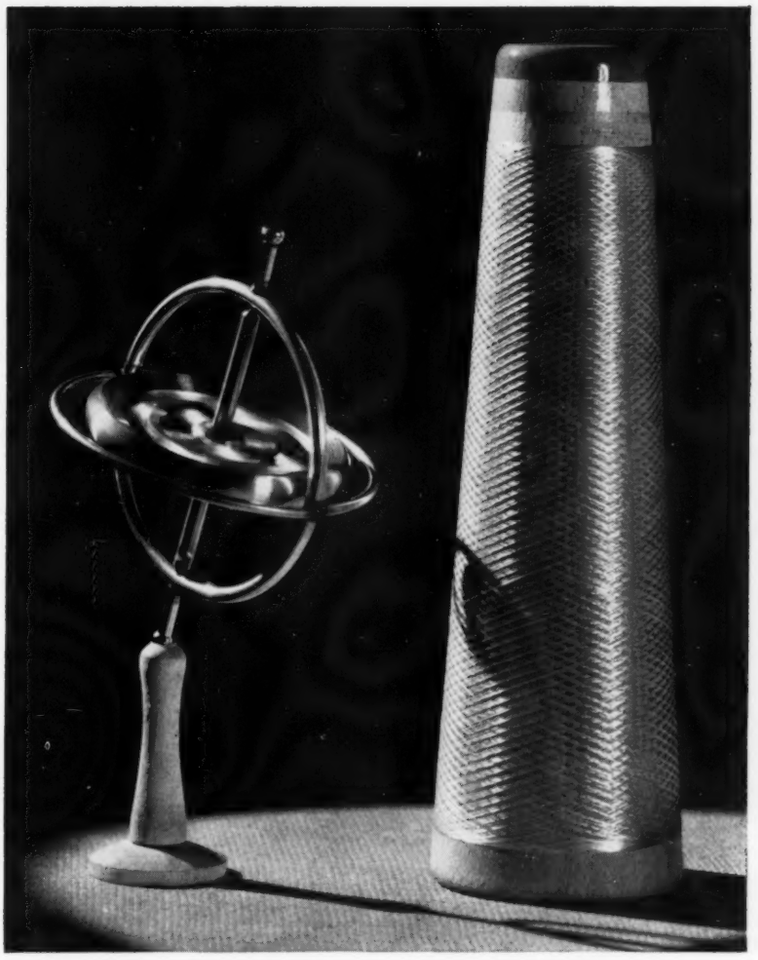
This volume contains the papers presented at the first conference on the application of statistics to the control of quality in industrial standardization held at Massachusetts Institute of Technology. The purpose was to show generally some of the industrial fields which had made use of the statistical method, to point out some of the types of statistical tools which are useful, and to discuss in detail several practical problems. Among the speakers of textile interest are noted W. Eustis, staff officer on research of the Kendall Co., and L. H. C. Tippett, statistician of the British Cotton Industry Research Association.

News of Suppliers

Calco Chemical Division of American Cyanamid Co., Bound Brook, N. J., has retained the laboratory facilities of the American Institute of Laundering to check on the possible chlorine affinity of the various finishes which they are now selling to the textile trade. The present work is being done on resins. The reported hydrochloric acid damage on some resin-treated shirtings, caused by contact with sodium hypochlorite bleach, is said to be limited to a particular type.

Howard Bradshaw, loom reed works, has removed his main office and plant to a unified location at Spartanburg, S. C. The office was formerly at Columbia and the plant at Cayce.

Derby Co., Lawrence, Mass., has been established by R. E. Derby at 15 Union St., for textile consultation work and to



BALANCE

The perfect wind on the first few turns tells the story of the *balanced* SONOCO Cone. . . Whirling at high speed on the winding mandrel *without* vibration, smooth, even layers of yarn are built up right from the start into a perfect package . . . the point of such perfection being complete yarn delivery, without breaks, right down through these same first few turns.

SONOCO
SERVES THE WORLD
PAPER CARRIERS

SONOCO MAKES *EVERYTHING* IN *PAPER CARRIERS*

SONOCO PRODUCTS COMPANY

BRANTFORD ONT. | HARTSVILLE S. C. | MYSTIC CONN.

DEPENDABLE SOURCE OF SUPPLY

act as distributors for soaps, solvents, oils and chemicals. Mr. Derby, who was for the last 12 years head chemist for M. T. Stevens & Sons Co., has also purchased a financial interest in the Textile Aniline & Chemical Co., Boston, of which James P. Cassidy is president and treasurer.

Elastic Stop Nut Corp. has moved its general offices from Elizabeth, N. J., to its new plant at Union, N. J. This new building is of all-steel construction fastened with bolts and Elastic Stop Nuts instead of rivets.

Riverside (N. J.) **Yarn Mills** have opened a New York office for their novelty yarn product. at 114 East 32nd St.

Durex Division of W. B. Connor Engineering Corp., New York, has appointed J. E. Orr advertising manager.

Rayon Division, E. I. du Pont de Nemours & Co., New York, has announced a new educational motion picture with sound, called "Fashion's Favorite" especially for retail store training classes, home economics groups and women's clubs. Steps in manufacture of rayon are shown and characteristics of rayon in terms of what they mean to the consumer are dramatized. The film is available in both 16 mm. and 35 mm. sizes.

American Cyanamid & Chemical Corp., New York, has added Quittman Rhodes to its southern staff with headquarters at Charlotte, N. C. Mr. Rhodes was formerly with Union Bleachery, Greenville, S. C., and American Finishing Co., Memphis, Tenn.

Morris Speizman (Interstate Textile Equipment Co.), Charlotte, N. C., has moved his office and warehouse to larger quarters at 508 West Fifth St.

Victor Balata & Textile Belting Co., Easton, Pa., has installed a loom said to be the widest in the world for producing solid woven belting. This specially-designed machine has an over-all width of 19 ft., is 18 ft. in length, and weighs approximately 26 tons. It produces solid woven belting 84 in. in width.

Warwick Chemical Co., West Warwick, R. I., has appointed Canadian Textile Engineering of Montreal, Que., as its Canadian agent. The firm will also act as agent for Impregnole Corp., New York.

American Textile Chemical & Engineering Corp., Kearney, N. J., and Canusa Corp., Arlington, N. J., will be represented in Canada by Dominusa Corp., Ltd., a new concern with offices at 620 Lagauchetiere St., W., Montreal, Que. A. L. Williams will be manager.

Yale & Towne Mfg. Co. has promoted S. W. Gibb to the position of general sales manager of the Philadelphia Division, where manufacture of materials handling equipment is concentrated. Mr. Gibb succeeds James C. Morgan who stepped up to the post of general manager of all Philadelphia operations.

S. W. GIBB, promoted to general sales manager, Philadelphia Division, Yale & Towne Mfg. Co.

Koppers Co., Pittsburgh, Pa., is building for the Eastern Gas & Fuel Associates at Everett, Mass., the first commercial plant in the United States for production of ammonium thiocyanate crystals. The plant eventually will have a capacity of 1800 tons a year of ammonium thiocyanate, which will be recovered from manufactured gas and will be offered in three grades: crude liquor, crude crystals and technical quality crystals. The chemical is the basis of many resins and is of importance in dyeing, printing and finishing of fabrics.

MOCK - JUDSON - VOEHRINGER CO., Greensboro, N. C., has installed this scale in its laboratory for weighing spools of finished silk, waste silk, and cotton yarn to maintain precise standards of measurement. It is a Toledo Computagram scale, sensitive to 1/1000 of a pound, which will show by quick automatic indication the slightest deviation from the most exact specifications. This type of scale is also used to weigh dye and dozen lots of hosiery so that average weights may be determined and costs figured.

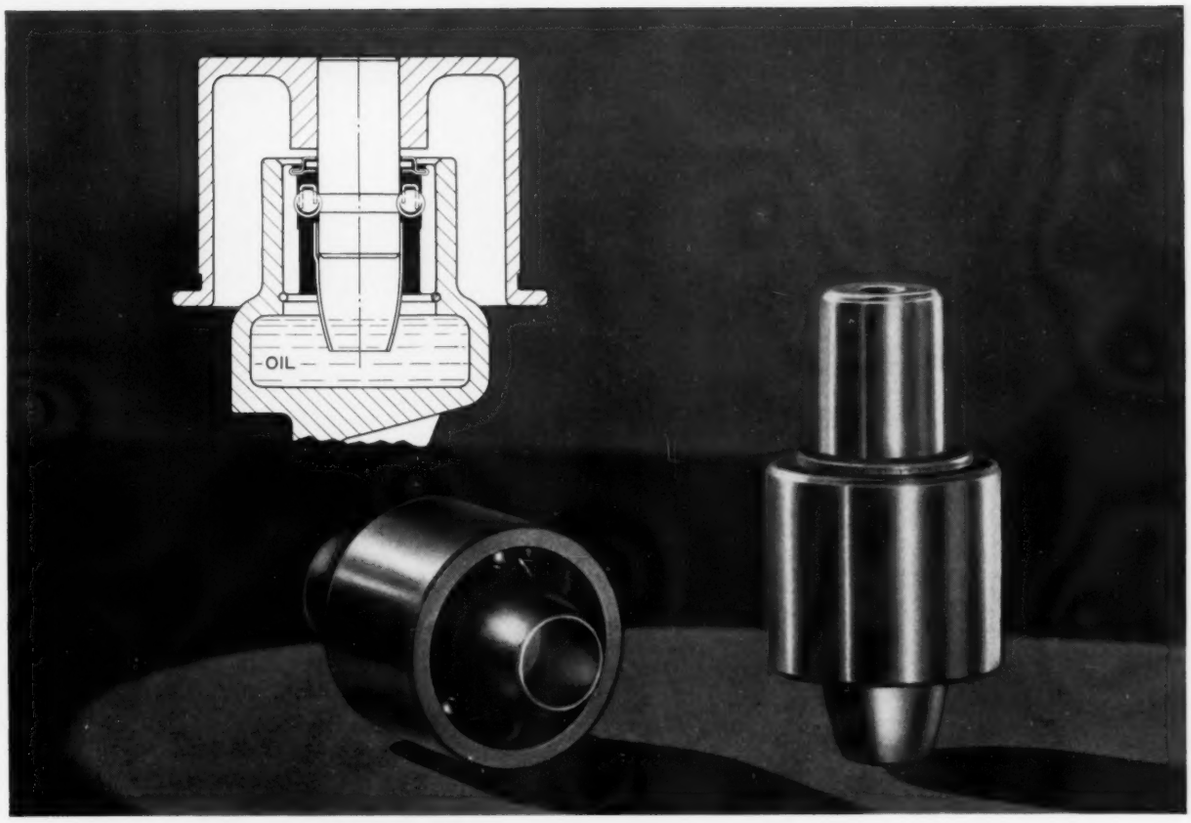
Ernst Bischoff Co., Inc., Ivoryton, Conn., manufacturers of pharmaceutical and textile mill specialties, has elected the following officers: I. M. Bischoff, president; H. G. Terwilliger, executive vice-president; Carl Truebe, vice-president and general manager; E. Guthrie Bischoff, treasurer; H. W. Truebe, assistant treasurer; C. Bischoff Terwilliger, secretary, and F. W. Wix, assistant secretary.

Carolina Aniline & Extract Co., Charlotte, N. C., has appointed Felix A. Tomalino as head of its newly formed Mert department.

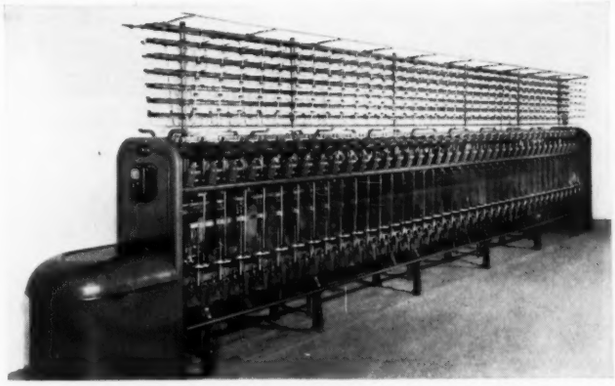
American Aniline Products, Inc., have moved their Boston branch offices from 67 Batterymarch St. to the recently-acquired building at 190 High St.

Quaker Chemical Products Corp., Conshohocken, Pa., has appointed George H. Rhodes to its research staff. Mr. Rhodes has been research chemist for a number of textile firms and

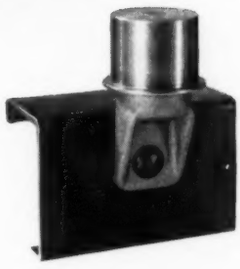
HERE'S THE No. 2 plant that will materially increase the capacity of SKF Industries, Inc., Philadelphia. The one-story, saw-tooth, daylight-type building contains 226,000 sq. ft. of floor space on a plot of 15 acres of landscaped lawns, and will be devoted exclusively to the manufacture of antifriction bearings. Executive, sales, and sales engineering offices will remain at Plant No. 1 at Front Street and Erie Avenue.



New Bearing Has Own Oiling System



↑ **New Atwood 5 B** machine designed for greater efficiency, speed and economy of doubling and twisting Silk and Rayon yarns. Is equipped with New Departure Vertical Tension Pulley Bearings.



Atwood Tension Pulley showing modern, clean cut simplicity of mounting. →

THIS "new departure" by New Departure is a Vertical Tension Pulley bearing now being used in some of the latest Textile Machines.

Unique in design, this bearing not only provides a vertical stub shaft for the pulley, but contains its own oil circulating system for speeds of 3500 to 15,000 r.p.m. By this carefully developed system a fine spray or mist is continually directed at the balls and races.

Being enclosed with friction-free all-metal seal, this New Departure protects its oil reservoir from dirt or lint and does not require relubrication oftener than once every two years. It requires no locknuts, screws or other parts for mounting and may be removed instantly for re-oiling and as quickly replaced.

New Departure, Division of General Motors, Bristol, Conn.

NEW DEPARTURE

THE FORGED STEEL BEARING

2889

AGNEW H. BAHNSON

FREDERIC F. BAHNSON

TWENTY-FIVE YEARS AGO, Frederic F. Bahnson and Agnew H. Bahnson of Winston-Salem, N. C., organized the Normalair Co. to make and sell a centrifugal humidifier. Previously Fred F. had been active as an electrical engineer and Agnew H. as a cotton mill president. The Bahnson Co. superseded the Normalair Co., and the organization has now completed 25 years of service in the field of humidification and air conditioning. Its latest system is the Bahnson Humiduct which may include heating, cooling, humidification, dehumidification, and ventilation. Bahnson installations are found not only in textile mills, but in tobacco, printing, baking plants, etc.

finishing companies. He will work on development of resin and organic finishes.

Mathieson Alkali Works, New York, has elected George W. Dolan as vice-president. He was previously assistant to E. M. Allen, president. C. S. Glenn, director of operations, has also been elected vice-president.

Oakite Products, Inc., New York, announces that 46 field service representatives from 10 different States, comprising the Detroit and Midwestern and Chicago and Southwestern divisions, recently held their regular annual two-day technical sales conference at the Lake Shore Athletic Club in Chicago.

Linde Air Products Co., a unit of Union Carbide & Carbon Corp., New York, has elected T. D. Cartledge and L. A. Bliss as vice-presidents, and E. J. Hayden as vice-president, Central Division. E. B. Suydam, formerly assistant general sales manager, has been appointed general sales manager to succeed Mr. Cartledge; and P. B. Pew, formerly assistant works manager, has been appointed works manager to succeed Mr. Bliss. C. K. Bryce has been elected vice-president of Oxweld Acetylene Co.

Desert Chemical Co., Los Angeles, Calif., is completing a plant for anhydrous sodium sulphate production at Dale Lake, Calif.

Claremont Laboratories, New York —Dr. Michael S. Shenk, consulting chemist to the starch, dextrine and adhesives industries now makes his headquarters with Claremont Laboratories.

Foote Bros. Gear & Machine Corp., Chicago, Ill., has appointed the Continental Gin Co., Industrial Division, Birmingham, Ala., to represent Foote in the following localities: Alabama, replacing Ebbert & Kirkman; Georgia, replacing Paul A. King; South Carolina, replacing Cameron Barkley Co.; North Carolina, replacing Briggs & Schaffner Co.; Florida, replacing Aetna Iron & Steel Co.; and southern part of Mississippi. Northern Mississippi will be covered by Foote's regular representative, Eugene D. Wilson.

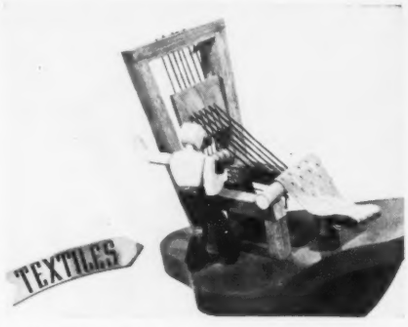
American Pulley Co., Philadelphia, has elected Archie Chandler vice-president in charge of sales. He first became associated with American Pulley in 1915 as district sales manager in charge of Pacific Coast territory. In 1928 he was named general sales manager of the company.

ARCHIE CHANDLER, vice-president in charge of sales, American Pulley Co.

Wickwire Spencer Steel Co., New York, announces that E. C. Stout has completed a special executive assignment for the company, and has resumed his duties as manager of the eastern district in charge of sales of all products.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa., announces that 21,222 employees are eligible to receive service award emblems in recognition of 10 or more years of service with the company. Of these, eight have been with Westinghouse for 50 or more years; 184 for at least 40 years; and 6,062 for 15 years or more. Service emblems are presented to each employee on the date he attains 10 years of service with the company, and on the completion of each additional five years, he receives a new emblem.

Pomona (Calif.) **Pump Co.** has elected C. L. Barrett, formerly general sales manager, to the office of vice-president in charge of sales, and appointed W. D. Turnbull as general sales manager in charge of the recently-established New York office at 120 Broadway. Direct sales in the New York area are under the direction of Quimby-Ryan Engineering Sales Co., Inc.



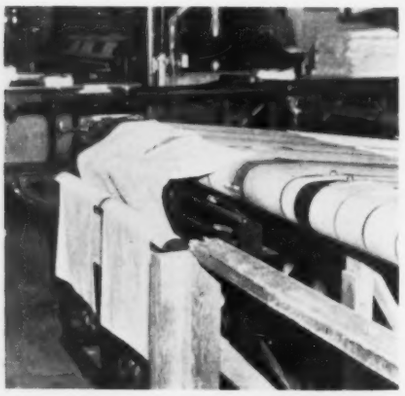
ASSOCIATION of American Soap & Glycerine Producers has set up in the New York Museum of Science and Industry, a novel exhibit to depict in terms of popular appeal the multitudinous industrial and household uses of glycerine. Above is the textile unit which is one of 24 similar miniature groups.

Monsanto Chemical Co., Plastics Division, is building a plant in Springfield, Mass., for manufacture of Resinox phenolic plastics. Present Resinox plant at Edgewater, N. J.

Formica Insulation Co., Cincinnati, Ohio, has begun erection of plant addition amounting to about 30,000 sq.ft., adding two stories to the present building and increasing capacity.

Allegheny Ludlum Steel Corp., New York, has appointed C. B. Boyne as manager of stainless sales with head-

"... and we're getting more production since we began knitting with TMW Needles."



UNIQUE AUTOMATIC DEVICE for handling pillow cases from conveyor to stack pile by means of compressed air is being used in Danvers Bleachery, Peabody, Mass. This device, called a "Photoelectric Automatic Air Doffer," is furnished with General Electric control. The difference in speeds between the conveyor belt and the ironer space the pillow cases from 6 to 8 in. apart. The leading edge of the case on the conveyor interrupts a light beam and resets the mechanism. As pillow case passes beyond the light beam and allows the light to strike a phototube, a solenoid valve is opened for a period of approximately 0.3 sec. Opening of the valve allows air at 15-lb. pressure to enter two horizontal perforated tubes. One tube blows air against the leading edge of the pillow case, while the second blows air toward the lagging edge of the case, passing it to the horizontal bar which is the receiving rack.

quarters at Pittsburgh. R. M. Allen is general sales manager.

General Dyestuff Corp., Charlotte, N. C., has begun the construction of a new building which is expected to be completed by Nov. 1.

Carrier Corp., Syracuse, N. Y., announces that it has played a part in the making of Nylon by the installation of two centrifugal refrigeration machines at the DuPont plant at Seaford, Del., where, under exact control,

E. H. ANCHORS, formerly branch manager for the Air Reduction Sales Co. at Atlanta, Ga., who has been appointed manager of the Oklahoma City District. Mr. Anchors began his career 15 years ago with the Commercial Acetylene Supply Co. and was southern manager of that company when it was acquired by Air Reduction.

they supply the 1200 tons of cooling daily necessary for the "freezing" of the tiny, molten Nylon filaments as they emerge from the spinneret.

Combustion Engineering Co., New York, has elected Joseph V. Santry as president to succeed Frederic A. Schaff who was elected vice-chairman of the board. George L. Bourne was re-elected chairman of the board.

Wiremold Co., Hartford, Conn., have erected a new 27,000 sq. ft. plant unit to provide expanded facilities for production of newly developed Wiremold products, including twin-lamp luminaires, industrial lighting units, and equipment developed for use with the new fluorescent lamps.

Cutler-Hammer, Inc., Milwaukee, Wis., has appointed G. E. Hunt to take charge of the company's Indianapolis office at 307 N. Pennsylvania Ave.,

G. E. HUNT, head of Cutler-Hammer's Indianapolis office.

which is under the supervision of C. J. Maloney, manager of the Chicago district sales territory.

Roller-Smith Co., Bethlehem, Pa., has transferred the switchboard division to a recently acquired plant in Allentown, Pa. The air and oil circuit breaker and instrument divisions will remain in Bethlehem.

Durez Plastics & Chemicals, Inc., Buffalo, N. Y., has completed a $2,000,000 plant for production of 15,000,000 lb. of phenol annually. The company production of phenolic resins now averages 24,000,000 lb. annually.

Colgate-Palmolive-Peet Co. Ltd., has appointed Charles R. Vint as president of its Canadian plant in Toronto, Ont., and Gordon H. Sloan as vice-president in charge of sales.

American Lumber & Treating Co. removed its offices and laboratory May 1 to the McCormick Bldg., 332 So. Michigan Ave., Chicago, bringing the company's home office and its laboratory under one roof.

E. R. WALKER, head of Air Conditioning Division, Fedders Mfg. Co.

Fedders Mfg. Co., Buffalo, N. Y., has consolidated all heating and air conditioning equipment into the Air Conditioning Division with E. R. Walker as manager.

Interchemical Corp.—The vital importance of chemical coatings in modern industry and everyday living is told in a new color-and-sound movie, "More Than Meets the Eye," released last month by Interchemical Corp., New York, of which Aridye Corp. is a subsidiary. The research, production, and distribution facilities of Interchemical Corp. and its subsidiaries are shown along with the broad story of chemical coatings. Movie was produced by Willard Pictures, Inc., under direction of George Welp, of Interchemical Corp. It will be available to interested manufacturers' associations and groups.

Charlotte (N. C.) Leather Belting Co. has completed installation of machinery in its new textile apron and roll covering shop.

Manning, Maxwell & Moore, Inc., Bridgeport, Conn., have transferred R. F. Heath from the Houston territory to the New Orleans territory, formerly covered by Jack Schuyler.

Phoenix Color & Chemical Co., Paterson, N. J., has made Harold W. Rose a member of the firm in the capacity of vice-president in charge of sales. He comes from Warwick Chemical Co.

Electrix Corp., Pawtucket, R. I., is now occupying its new research and patent-development plant. It specializes on work with resinous and rubber compounds.

Austin Co., Cleveland, Ohio, has named George W. Plaisted, vice-president of the company in charge of West Coast operations for the last seven years, as vice-president and general sales manager of the company with headquarters at Cleveland.

"Acorns were good till bread was found"
BACON

In a 40-hour week the new READING high-production twenty-six section forty-five gauge full-fashioned knitting machine produces 97 per cent more volume and 116 per cent more value than the ordinary twenty-section forty-two gauge machine . . . *And remember: Money invested in modern machinery not only pays big dividends of itself but also serves as insurance for your total investment.*

TEXTILE MACHINE WORKS • READING, PA.

FREE FOR THE ASKING

Readers interested in literature reviewed on this page may secure copies by writing to Textile World, 330 West 42nd St., New York, giving their company connection, title of item desired, and date of issue in which it was reviewed.

Lighting. Benjamin Electric Mfg. Co. Illustrated handbook contains 46 pages of charts, diagrams, tables, and photographs describing uses of fluorescent lighting; includes catalog data on company's products.

Belting. E. F. Houghton & Co. Leaflet describes treaded leather belting of this producer, pointing out its superiority and low price.

Clothroom Equipment. Hermas Machine Co. June issue of *Clothroom Spotlight* describes facilities for assisting mills in laying out clothrooms, selecting machinery etc.; included are short items on shears for spun rayon fabrics.

Air Conditioning. Parks-Cramer Co. May issue of *Parks' Parables* contains article on mill testing laboratories; subjects covered include selection of equipment, temperature and humidity requirements, etc.

Water Treatment. Solvay Sales Corp. Bulletin No. 8, in 84 pages, describes techniques used in treating industrial and municipal water supplies; charts, tables, and other data are included.

Bearings. Johnson Bronze Co. Data sheets describe self-lubricating bearings, covering chemical and physical characteristics, operating temperatures, contraction and expansion, and method of installation.

Loom Parts. Draper Corp. June issue of *Cotton Chats* pictures and describes precision machines used in making lay swords, harness cams, beam heads, and other loom parts.

Mechanical Rubber Goods. B. F. Goodrich Co. 24-page catalog contains engineering data and guide to selection of conveyor belts, transmission belts, and other mechanical rubber products; included are tables on minimum pulley diameters, V-belt drive problems, and other engineering questions.

Motors. Century Electric Co. Four-page folder describes split-phase motors for a variety of uses; cut-away motor diagram gives details on construction.

Looms. Crompton & Knowles Loom Works. Publication titled "Three Vexing Ills of Textile Mills" describes how high cost-pressure, senile debility, and faulty assimilation hamper mill modernization; suggests steps to be taken to overcome these difficulties.

Ball Bearings. New Departure Division of General Motors Sales Corp. Leaflet A-287 gives data on pulley design, housing and oil well, and mounting of new-type vertical tension pulley bearing.

Hosiery Checking System. Fidelity Machine Co. Four-page folder pictures and describes new Fidelity-Rolandé method of hosiery length and match control; points out savings which can be realized through its use.

Tachometers. Stewart-Warner Corp. Booklet 18-11 contains 12 pages of data, descriptions, and photographs of tachometers for industrial use.

Loom Harness. Emmons Loom Harness Co. Eight-page catalog describes cord and mail-eye cotton harness, loom reeds, heddles, harness frames, and other weaving accessories.

Detergents. Rohm & Haas Co., Inc. Booklet describes synthetic detergent known as Triton 720; covers wetting, absorption, emulsification, deflocculation, rinsing, and other properties.

Fluorescent Lighting. Westinghouse Electric & Mfg. Co. 32-page technical bulletin, No. B-2235, describes company's products for meeting fluorescent lighting needs of textile mills.

Pillow Blocks. Dodge Mfg. Corp. New bulletin, A-325, covers double-interlock pillow blocks; included are selection tables covering numerous conditions of service.

Electrical Equipment. Westinghouse Electric & Mfg. Co. Data sheet 35-555 describes indoor oil circuit breakers with interrupting capacities of 75,000 kva.; Catalog section 44-100 contains 16 pages describing dry-type transformers, auto-transformers, boosters, and phase-changing transformers; Leaflet 15-800 describes improved, heavy-duty, d-c. magnetic contactors; Leaflets F-8533 and F-8537 describe fractional-horsepower motors.

Belt Lacing. J. E. Rhoads & Sons. Six-page, pocket-size folder describes lace leather and gives directions for lacing belts.

Paint. E. I. du Pont de Nemours & Co. Inc. New booklet gives complete information about high-hiding mill-white paint and its uses.

Acetate Rayon. Tennessee Eastman Corp. Interesting booklet gives word and picture story of rayon yarn and fabric manufacture; included are actual samples of eleven typical fabrics.

Stainless Steel. Republic Steel Corp. 18-8 types of stainless steel are described, and their uses and properties outlined, in 24-page booklet, No. ADV 362; included is chart giving data on corrosion-resistance to a wide variety of chemicals.

Textile Machinery. Davis & Furber Machine Co. May issue of *Davis & Furber News* contains article describing "A Time to Prepare for Volume Production," and listing company's facilities for cooperating in such programs.

Generators and Unit Heaters. General Electric Co. Leaflet GEA 1607C contains information on construction features, modifications, and available ratings of d-c. generators and exciters; Bulletin GEA 2592A describes forced and natural-convection types of unit heaters.

Lubrication. Standard Oil Co. May issue of *Esso Oilways* contains article describing lubrication of jacquard looms, spinning frames, and other textile machinery.

Printing Thickener. Rohm & Haas Co., Inc. Bulletin describes Rhotex A-20, a new synthetic thickening agent developed especially for textile printing; included are data on its properties, and formulas for its use.

Lighting and Wiring. Wiremold Co. Catalog No. 15 and Price sheet No. 30 give descriptions, installation instructions, and other data on company's lighting and wiring systems as applied to modern lighting installations.

Power Transmission. Boston Gear Works, Inc. 288-page, pocket-size catalog gives brief data on wide variety of power-transmission equipment; large amount of specification, price, installation, and other engineering data is included.

Blowers and Cleaners. Clements Mfg. Co. Descriptive folder covers five models of portable electric combination blowers and suction cleaners.

Cleaning Materials. Magnus Chemical Co. Case-record file gives information on handling of 48 different cleaning problems, ranging from boiler-scale removal to cleaning linoleum floors.

Capacitors. General Electric Co. 24-page booklet No. GEA-2742A, describes Pyranol capacitors for low-voltage industrial applications; photographic, diagrammatic, and tabular data are included.

Boiler Feed Water. Cochrane Corp. Publication 2975 describes equipment used to remove carbon dioxide from water.

Combustion Control. Republic Flow Meters Co. Automatic combustion control for boilers is described in Data book No. S-21, which contains basic data on combustion-control problems as well as information on equipment for handling these problems.

Stokers. Link-Belt Co. 8-page rotogravure catalog No. 1782 describes automatic coal stokers of various types and stresses combustion principle employed.

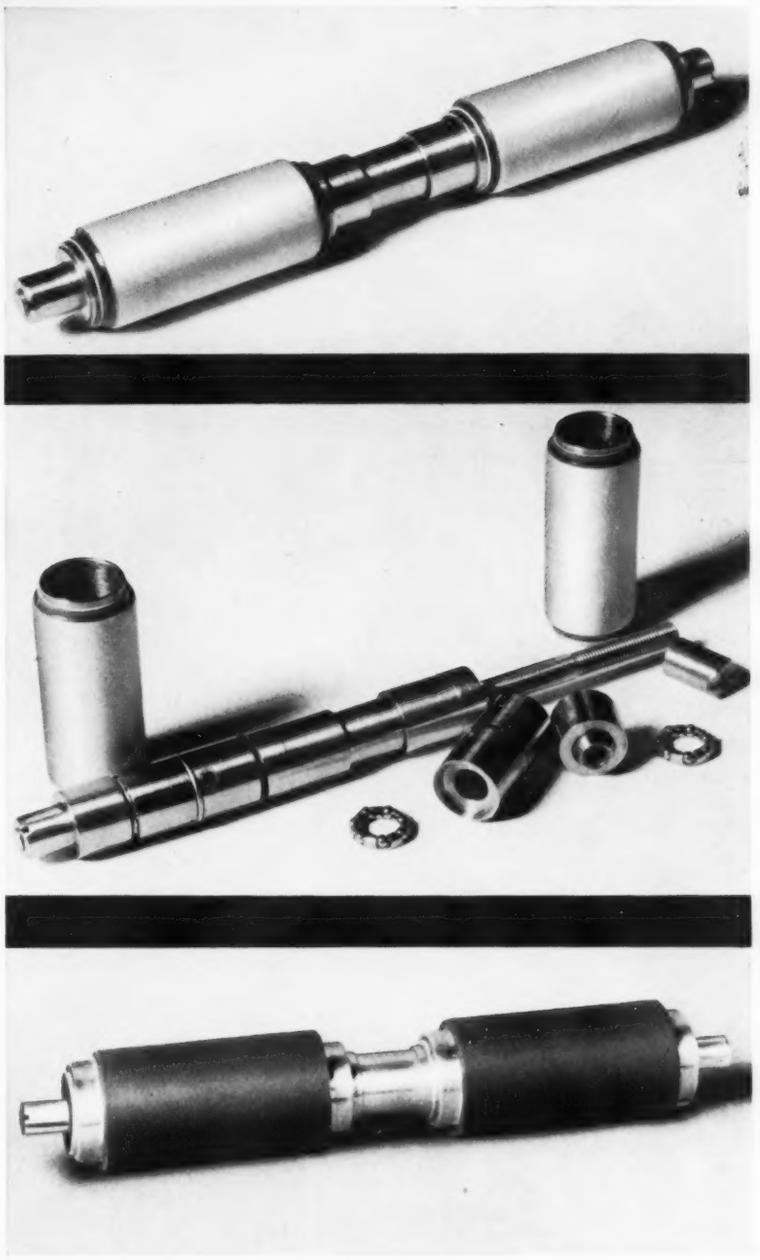
Electrical Accessories. Walker Electrical Co. Catalog No. 17 contains listing of available floor boxes and pedestals for loom switches and other textile applications.

Fabric Identification. National Marking Machine Co. 24-page booklet describes company's method for marking fabrics and other textile products with indelible, invisible ink; also covers special light source which makes markings visible.

Motors. U. S. Electrical Motors, Inc. Booklet describes design and operation of company's single-phase motors; contains illustrative diagrams and charts.

At last

A TRULY LINT-PROOF LOOSE BOSS TOP ROLL FOR SPINNING AND ROVING FRAMES



An original type of shell roll that is superior to anything heretofore available for textile machines.

The arbor is formed from a single piece of hardened steel designed to give equal weight distribution, with ball races correctly spaced for best load-carrying qualities.

Shells are securely locked in position during operation, but are easily removed for buffing or covering.

Long life lubrication eliminates daily oiling nuisance.

No grease or oil stains on your yarns.

The entire assembly is effectively sealed against lint and dirt.

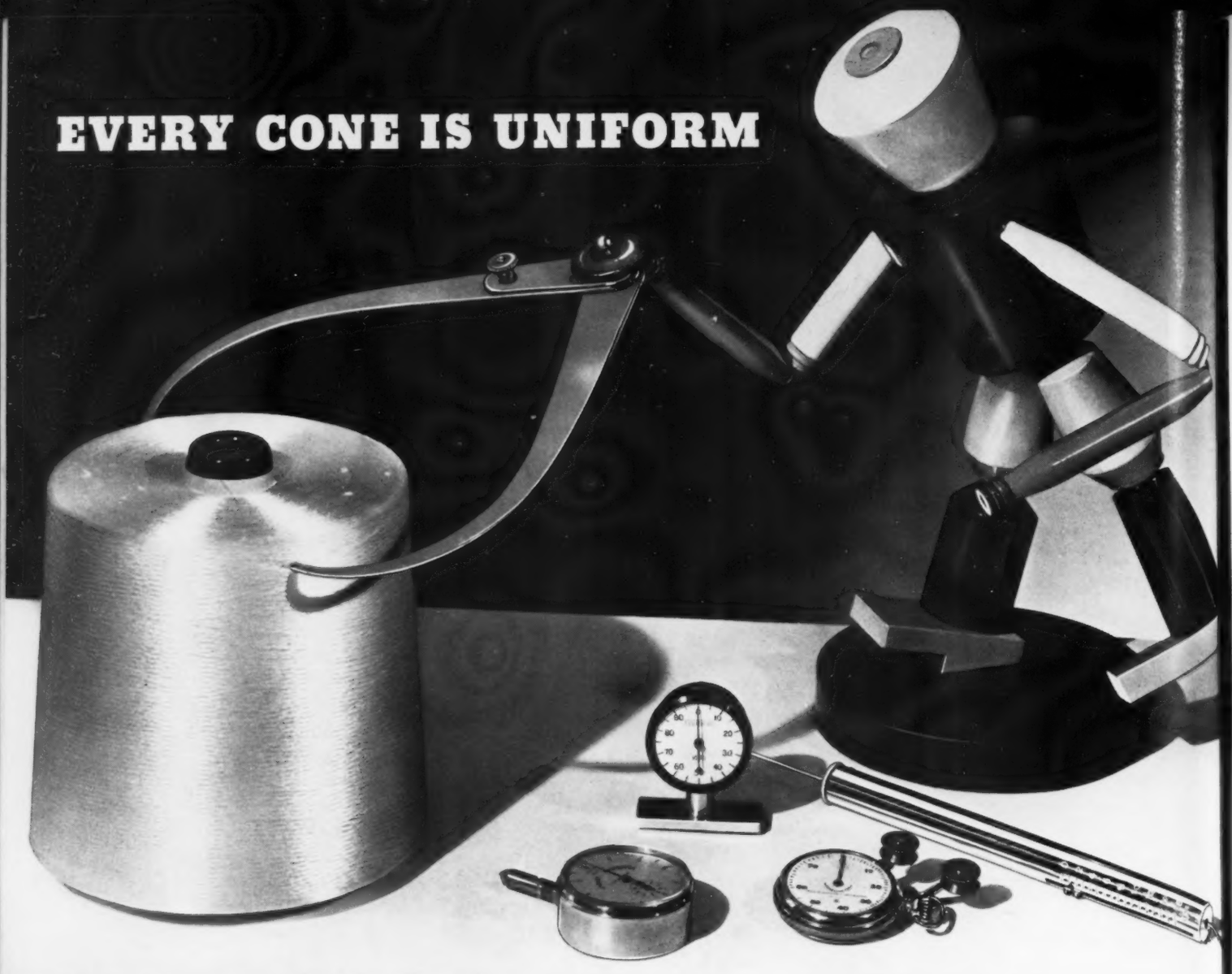
Specify the NEW Whitin Ball Bearing Shell Top Roll on all new Spinning and Roving Frames, or when replacing your present equipment.

WHITIN MACHINE WORKS

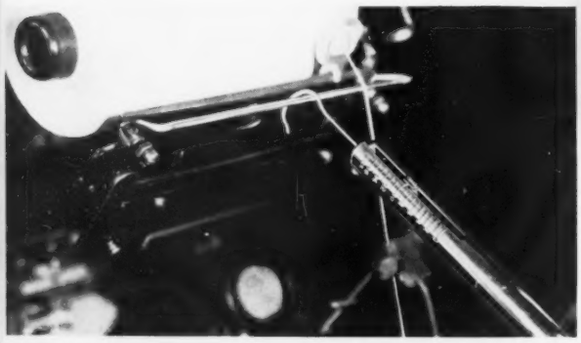
WHITINSVILLE, MASSACHUSETTS, U. S. A.

CHARLOTTE, N. C. ATLANTA, GA.

EVERY CONE IS UNIFORM

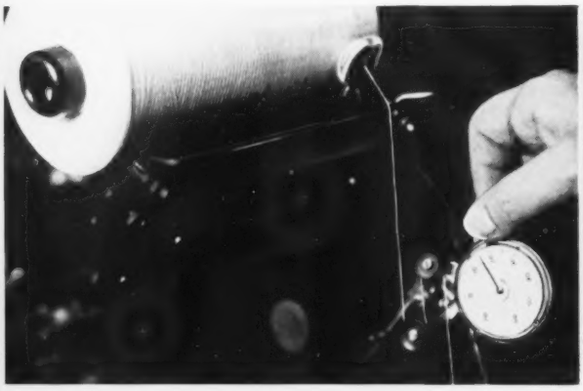


Cones of uniform density are produced because the Traverse Frame Back is counterbalanced by a weight on the Traverse Frame below cam shaft.



Winding with uniform pressure is possible because the only adjustment is obtained by the use of small weights on the Differential Pressure Lever.

An important reason for the world-wide preference for Universal Cones of silk and rayon yarns is the opportunity to control uniformity of density, pressure and tension . . . which is responsible for the high percentage of first-quality cones produced.



Uniform tension is required for winding rayon yarns. The finest deniers are wound on the No. 50 Winder with a uniform control of tension.

• • •

The No. 50 Winder is used to wind more than 90% of all the world's silk and rayon put up on cones. Knitters and weavers agree that the Universal Cone is the best form of supply for knitting machines, warping and twisting creels and filling winders.

LESONA® *Reg. U. S. Pat. Off.

UNIVERSAL WINDING COMPANY, Providence, Rhode Island

THE OVERSEERS' CORNER

A PETE AND BILL DISCUSSION

CONFIDING IN SECOND HANDS

A group of overseers were trying to get organized for an outing. Bill shouted from his office: "I'll see you later, Pete! I'm busy now—got to go over some things with that scatter-brained assistant of mine before I can go with you fellows. Don't wait for me!"

"Oh, all right. I thought you would be ready," yelled back Pete. "What's the matter? Can't your second hand run the room for a couple of days without special instructions?"

"Not unless I tell him a few things he ought to know," replied Bill. "Don't you lay out the work for your man when you go away?"

"Not on your life!" Pete retorted. "He knows my job as well as I do and any time I step out he's right there, ready. The help never knows the difference and production don't slow up, not half a pound!"

"Yeh, and some of these days," warned Bill, "you're going to be fired and your second hand will be sitting pretty."

"But that's not the way I look at it, Bill," Pete went on, "There are lots of good men who never got promoted because they haven't anybody ready to do their jobs."

The overseers were trying to get organized for an outing

"I call it dangerous!" said Bill. "It's bad business to tell your second hand too much about the job. He may be cutting your throat while your back is turned."

Pete looked pityingly at Bill as he left. "You poor old mossback! I wonder what will happen to your department if anything serious ever does happen to you?"

How much should an overseer tell his assistant?

Letters From Readers

Describes Avondale Training Plan

"Reducing Labor Turnover"
Pete & Bill, March, 1940

Editor, Overseers' Corner:

In reply to the Pete and Bill discussion on learning more than one job, I wish to say Pete is right in these days of high speed and high production. A trained or skilled operative is a valuable addition to any kind of job even if it does cost something to let the present help learn other jobs. Suppose you have a section man who gets sick on the job or some of his relatives die. That would necessitate his being away from his job two or three days. If you have a doffer who can run that section and a sweeper who could doff but could not run the section, you could put the doffer on the section and put the sweeper on the doffer's job. You can always find a sweeper. Now, I say, Bill, would you risk the sweeper on the section? No, but you could let the doffer run it. One way our company, Avondale Mills of Alabama, handles this problem is by means of an old school building fixed up with machinery where the untrained person may learn a job on his own time. When an opening occurs, the person who is prepared gets the job.

But, if labor cutting-off has to be done, regardless of the length of time the employee has been on the job, the one who is the most capable should be kept.

HOMER J. CABANISS (*Sylacauga, Ala.*)

Friendliness Pays Dividends

"The Foreman's Wife"
Pete & Bill, Feb., 1940

Editor, Overseers' Corner:

I am on Pete's side this time, I think an overseer and his wife should chum with the people who work for him. That is in such matters as church work, church socials, community clubs, etc. On the inside of the mill, of course, it will have to be somewhat different, but still we must treat the help under us as human beings. If Bill and his better half would join in with Pete and his wife and take a part in such things, he would soon find life more rosy and sweet. Be a good mixer and still hold the respect of your help. Boy, it pays big dividends in the end!

A.B.B. (*North Carolina*)

Praises Textile Publications

Editor, Overseers' Corner:

Every serious and thorough reader of textile magazines knows the beneficial

CONTRIBUTIONS to the letters and practical helps in "The Overseers' Corner" are paid for when published without regard to length. We use letters (not over 200 words) discussing the material on this page or any other pertinent matter whether of mechanical, managerial or just plain human interest. Those who contribute practical helps or kinks which are published (not over 500 words) will be paid additional for an appropriate sketch to illustrate their device. It is not necessary to submit finished drawings. Contributions of greater than specified length may be given consideration as articles. If these pages interest you —contribute something to them to interest others. Address Editor, Overseers' Corner, Textile World, 330 West 42d St., New York.

This large sign outside Stark Mill of U. S. Rubber Co., Hogansville, Ga., greets each worker the first thing every morning. This and other safety measures have contributed to Stark's low lost-time record in recent years.

results that the technical articles give him in enabling him to run his job better. Especially helpful are the illustrations that go with such articles. The primary objective of all good trade magazines is to aid their readers in their work by publishing that type of article. Careful reading and study of these articles has proven of inestimable value to me over a period of many years.

The advertisements contained in trade magazines are of help, too. On several occasions the ads having to do with new machinery and parts have been most useful to me in my position as overseer of carding. In one instance, I was able to effect a substantial saving for my company by changing from a certain inferior article to one of obvious superiority which I learned about through an advertisement in a textile magazine. This saving won for me not only the praise of my superintendent and general manager; I was also given a substantial raise in wages. These were in addition to the healthy satisfaction of knowing I'd rendered my company a worthwhile service.

Textile advertising has been of definite value to me personally by enabling me to keep fully informed on what is new in equipment, and in helping me keep my department producing quality work at maximum speed and minimum cost. Truly, textile magazine advertisements, properly studied and digested, are almost an education in themselves.

EARL FARMER (*Lincolnton, N. C.*)

Refreshments During Working Hours

Editor, Overseers' Corner:

"Should Mills Serve Refreshments During Work Hours?" There is much that can be said on both sides of this subject, and in our humble opinion it is not receiving the attention it should. There is no doubt that eating and drinking carts will cause some confusion and loss of time, but the good will created by them will outweigh the loss. We hear a great deal about humanizing industry, and perhaps there is no better way to start than to satisfy the appetite. When a worker uses up his energy and begins to fag, there is no surer way to revive him than to give him a bite to eat and a cold drink. A contented worker is a productive worker. Enuf said!

K. M. SMITH, (*Vinton, Va.*)

Laying Off Help

"Reducing Labor Turnover"
Pete & Bill, March, 1940

Editor, Overseers' Corner:

Laying off workers because their particular job is slack while the mill is reasonably busy is a poor policy. Except in cases of specialized or supervisory work, workers should be interchangeable. An employee who can do only one job is of minimum use; a good employee is one who can do another if necessary, and who has some knowledge of all jobs in that mill. This is the aim of all good workers and is absolutely necessary for promotion. A man who can only do one job may be a good specialist but is one who can never be considered for promotion outside his own particular line. Confining men to one particular job to the exclusion of all else is the fault of many managers, and to some extent prevents men from having continuity of employment and staying their whole lives with one firm.

W. E. WARNER (*London, England*)

"ANOTHER GROAN"

Says the spinner to the carder:
"My, but your work is bad,
And all the roving that comes to me
Is the worst I ever had;
Your work is sure uneven
And also spotted black—
In fact, I do get weary
Sending bad work back."

Says slasher boss to spinner:
"You're the worst I ever saw,
And to stop you makin' such bad yarns
There ought to be a law;
Your beams come down to me too soft,
And the ends keep running slack;
The knots and kinks and loose ends
Breakin' down in the back."

Says the weaver to the slasher boss:
"Do you ever use your eyes,
Or have you any knowledge
Of how to mix your size?
I'm sure there would be no bad work
If 'twasn't for your room—
In fact, you make the darnedest yarn
Ever put into a loom."

And thus the kicking goes merrily on:
And each one has his say,
And while they kick about the work.
It affects the weaver's pay
Why not each man in every room
Just do his very best?
Then the weaver, bless his heart,
Would simply do the rest.

—Jigger Jones

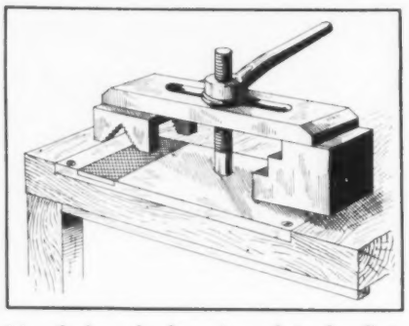
(Editor's Note:—We recently plucked this off a bulletin board in a large southern mill. Anyone know any more poetry?)

Overseers' Practical Helps

Bench Clamping Plate

The bench clamping plate and strap illustrated in the accompanying sketch is a very useful tool which can be easily made in the shop. A steel plate is set flush into a bench, preferably at one end. On the plate is a milled slot for a section of old file, which makes a good gripping surface. The rest of the device is a conventional slotted clamp or strap and a stepped block. For gripping pipe or rounds a V-jaw is used, as shown.

—C.H.W. (*N.H.*)



Handy bench clamping plate for flats and rounds

Weaving Chafed Yarns

When rayon or acetate yarns chafe along the reed line and are seriously split and likely to break before being finally woven in, a good way to overcome the difficulty is to spray warp size on to the chafed portions, using an ordinary insect sprayer. This is more satisfactory than painting the warp size with a brush or wiping it on with a piece of rag dipped in the size. Brush bristles tend to split the filaments further, and rags often leave lint or ravelings clinging to the warp.

Easily recognized causes of chafed goods include broken harness cords, wires, screw eyes, and other such parts. Chafed streaks that are hard to account for can generally be traced to a sharp reed or to fragments of glue adhering along the edge of the raceplate cloth. After weaving the sized portion of the yarn through the reed, the loom should be run for a few picks, to spread the size evenly over the warp yarn. Then, the cause of the defect should be removed before proceeding further.

—H.E.W. (*Pennsylvania*)

Cracks in Crammed-Stripe Cloths

Weaving precautions help eliminate common woolen and worsted fabric defect

CRAMMED STRIPES are for decoration and to enhance the appearance of fabrics which, without the stripes, would be practically void of interest. Many different materials are used to form the stripes; i.e., silk, cotton, rayon, etc. These have properties which differ greatly from those used for the woolen or worsted grounds. Because of these differences, cracked stripes are a common source of trouble.

The two properties which chiefly concern the making of stripes of different materials are stretch and strength, and a rough comparison of average fibers is as follows:

	Break Ratio	Breaking Extension Ratio
Wool	1.00	1.00
Silk	1.25	0.60
Cotton	1.08	0.33
Rayon	0.45	0.20

Strength is an important factor because the stripes, which are usually crammed in the reed, are often overset compared with the ground, and work much tighter than the latter. The result is that the filling is more difficult to beat in in the stripe portion than in the ground. Therefore, striping yarns of good tensile strength are essential to good results.

During weaving the yarns are subjected to various stresses and strains, such as shedding, warp tension, and beating-up. Hence, stretch plays an important part in successfully making crammed-stripe styles. With a wool ground which can, under certain conditions, stretch as much as 60 to 70% its length, and silk or cotton striping ends, which stretch half only as much, trouble is bound to occur, if precautions are not taken.

Several methods have been adopted to reduce the strain on the extra ends during weaving. One is to draw in the stripes on extra harnesses placed immediately in front of those used for the ground. As the front harnesses do not lift as high as the back ones, shedding strain is reduced. Another method is to use as little tension on the warp as is compatible with economic weaving.

It is a good policy when weaving very firm ground weaves, to modify the design, if at all possible, so that the stripes interlace less frequently than the ground weave. Trouble is nearly always experienced when the stripe ends are drawn on the ground harnesses, and have the same interlacings as the ground cloth.

A good method to decrease breakages during weaving is to run the stripping ends, with an addition in length of 1 in. to 3 in. per yd., on a second beam. The let-off of this beam is then so regulated that it unwinds slightly faster than the ground beam. The actual amount of let-off is controlled, of course, by the types of yarns used and the number of ends and picks per inch. The two-beam method necessarily means extra expense and time in warping, with loss in output. Hence the wave motion used during warping has mostly superseded the former method. With the wave motion, the striping extra ends are warped along with the ground ends, but are run on to the warp beam in a zigzag or wavy manner. Thus, an extra length of the yarn is delivered, the amount being controlled by the extent of the wave, although 3 in. extra length per yard is usual. This method incurs very little extra cost; only one beam is necessary, there is no loss in output, and very satisfactory results are obtained.

Trouble with cracked ends is sometimes met with when the cloth comes into contact with a perforated metal-covered take-up roll. It is quite likely that the sharp spikes of the roll are the cause of this, and the remedy is to cover the roll with emery paper, tightly bound cloth, or rubber fillet. The rubber fillet is fastened at one end of the roll and wound tightly around its circumference until the beam is completely covered; the fillet is then fastened at the other end. The spikes of the metal grip the inside of the

Abstracted from the *Textile Manufacturer*

GEORGE LOWRY, master mechanic, Henderson (N.C.) Cotton Mills, is grinning because he just received a gold watch commemorating 44 years of continuous service with the company. He began as fireman in 1896 under D. V. Cooper, whose sons now operate the mill. Mr. Lowry started out as a fireman, but was put in charge of electric motors when the mill was electrified in 1911. For the last 25 years he has been head of the mechanical department. He is active in social and religious circles of Henderson. The adjacent picture was made by Photographer Bill Coxe, of Greenville, S. C.

rubber, prevent it from slipping, and afford a grip on the cloth. The outside of the fillet is studded to improve this grip.

Covering of the take-up roll in this manner does not, however, give so good a grip on the cloth as does the spiked metal, so that extra precautions may have to be taken to insure even winding-on of the cloth. Also, to increase frictional contact between cloth and rubber-covered roll, a good plan is to use a felt-covered tension roll and so adjust it that in passing over this roll the cloth comes into contact with almost the whole of the circumference of the take-up roll.

At the same time it is advisable to reduce the weight at the back of the loom. If the cloth is woven under too much tension, while the stripping ends may not break in weaving, they will probably be stretched to their limit and be just at the breaking point. As the cloth leaves the temples and before it reaches the take-up roll, there is a contraction in width varying with different weaves from about 2 to 8 in. At the same time there is a slight extension in length of the cloth. The amount of take-up per pick has been found to be approximately 2% more than the amount of space per pick at the fell of the cloth. Hence, it is safe to say that the cloth extends 1½ to 2% after it leaves the temples.

Now, if the cloth has been woven with a heavily tensioned warp, the stripping ends will not be able to extend even 1% without cracked ends resulting. The only remedy is to reduce the weight and to have a shed just large enough for the passage of the shuttle.

Trouble is also likely to be caused by pins of rolls in the temples, or by temples which are not set correctly. A remedy for this is to take out all the rolls in the temples, except two, which are left in at the base of the roll spindle. The temples are then set so that these rolls grip the selvages only. To prevent the cloth running off the spikes, the temples are moved forward as far as possible, so that at the beat-up the reed is as near to the temples as is possible without actually contacting them. The spindles in the temples should be set at a slight angle with the tips of the spindles toward the reed; this also helps to prevent the cloth running off the spikes.

Cracked ends may also be caused in the finishing processes, either in crabbing, scouring, or fulling. Usually, the trouble can be traced to one or more of the following faults: too much tension during crabbing, excessive weight on rolls during scouring or fulling, badly worn or chipped rolls, fulling the piece too long, or allowing the piece to run in the same folds. Finishers should take the necessary steps to eliminate any of these objectionable features.

Rayon Soaking Ingredients

Affect yarn running quality, fabric finish; techniques likewise important

By O. P. SHELTON

THE IMPORTANCE of the soaking operation is not minimized by anyone acquainted with rayon throwing, yet few persons agree on just how soaking affects the running quality of the yarn and the final finish of the cloth. The statements in this article are the results of actual tests conducted by the writer, and it is hoped they may be helpful in promoting clearer understanding of the effects of soaking ingredients and technique. Answering the question, "Why soak rayon?" immediately leads to the heart of the topic. If the reason given is to improve the throwing operation and assist the finisher, the natural reaction is to inquire upon what basis the materials and technique used will have the desired effect.

First let us consider what happens when unsoaked viscose rayon is hard twisted. The yarn breaks back badly in the twisting and subsequent operations. It has many split ends, and is variously referred to as hairy, fuzzy, or broken-filament yarn. The twist sets reasonably well, but gives trouble in weaving. The worst trouble comes in finishing the cloth. Creping is uneven, although very firm, and the cloth is likely to be full of the type of streaks commonly called crow's feet.

Compare that with soaked yarn, and there is no question that use of soaking oil helps the yarn to twist smoothly with a minimum of breaks. However, adding more oil than is needed for good running serves no useful purpose, except the doubtful one of adding weight. It is the writer's finding that normal quantities of oil used in soaking rayon have little effect on the character of the finished cloth. This holds both for sulphonated vegetable oil (whether or not it is mixed with raw coconut oil) and for good sulphonated mineral oil. The only reason for varying the quantity of oil in the soaking bath, it appears from these experiments, is to fit this part of the formula to the yarn being thrown. Multi-filament rayon, yarn having a harsh nature, or yarn being thrown into the higher twists requires larger quantities of lubricant. The average quantity of sulphonated vegetable oil to soak 100 lb. of rayon is about 10 to 15 lb. in 75 to 80 gal. of solution.

MUCH MORE IMPORTANT to the cloth finish wanted than the oil used, but usually having less effect on the running quality of the yarn, is the size used in the soaking bath. A number of tests have shown that viscose rayon soaked in an oil solution only can be thrown virtually as well as yarn that is also sized. Too much sizing, on the other hand, causes the yarn to break badly in twisting, and sometimes prevents it from twisting evenly.

It was once thought that size was needed to bind the filaments, much as silk fibroin is bound by sericin. This is true when soaking rayon for warping, but not when soaking it for throwing. In the latter case, filaments must be left reasonably free, so that they can slip and twist within themselves during the twisting operation. A test lot of rayon so sized as to bind the filaments could not, it was found, be successfully thrown into high-twist crepe. The little that was completed produced a surprisingly flat piece of cloth with a minimum of contraction.

The larger the quantity of size used, the flatter the pebble will be, all other factors being equal. In mixed sizes with which experiments were made, the higher the gelatine content the less rough the crepe proved to be, when equal quantities were used on similar yarns and constructions, and the fabrics were finished uniformly. Of the several sizing ingredients tried, both high- and low-grade gelatine had more influence over the crepe finish of the cloth than did the gums tried; arabic, locust-bean, karaya, and tragacanth.

No mention has been made of the effect of tints used. They are supposed to, and usually do, have no effect on the running quality of the yarn (other than psychological). In rare instances, they have been found to weaken the yarn or otherwise affect results, due to use of large quantities of inferior tints.

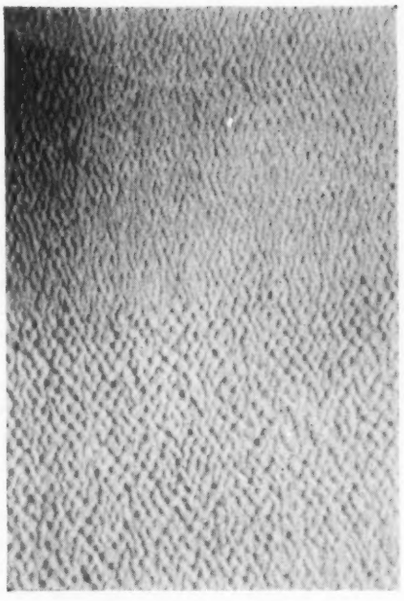
The standing soaking bath, practically always used for rayon which is to be thrown, unquestionably has an

effect upon the running quality and ultimate appearance of the rayon crepe. For practical purposes it is sometimes assumed that the oil, size, and water all leave the bath in equal proportions. Actually this is not correct, and most throwsters know it.

In replenishing standing baths, most soaking formulas call for additions in the same proportion as the original solution. A few throwsters add less; still fewer add more. One thing is certain: it is not generally clearly understood just how the stock should be added to. Initial tests on certain materials and formulas tend to show that the soaking bath gains in strength, particularly as to size, when replenished in the same proportion as the initial bath. Therefore, applying the principles stated earlier in this article, it is quite clear that using a standing bath too long, or one that is replenished improperly, will tend to affect both the running quality and the ultimate creping.

It is general practice to discard the entire soaking solution and begin with fresh liquor after a predetermined number of pounds have been soaked. This in itself is admission of inability to determine proper replenishing procedure. Another complicating factor is that there is a difference between tub and machine soaking in regard to bath stability.

When extractor liquor is saved, as is often the case, the proportion of the ingredients remaining in a used bath is difficult to determine, and almost impossible accurately to predict. It is known that the last few quarts of extractor liquor which are reclaimed contain a much higher proportion of size and oil than do the first few.



Soaking ingredients affect creping. Above sample is identical in every respect except quantity of gelatine used in soaking filling. Flat portion resulted from use of 3 lb. high-quality gelatine in 60 gal. of solution; heavily creped portion was treated in solution containing 4 oz. per 60 gal.

This phase of rayon soaking unquestionably merits either further study and/or publication of existing information for the benefit of all rayon throwsters and the improvement of fabrics made from thrown yarns.

S. C. Carders and Spinners

Discuss cotton and rayon problems at Greenville

CARDING AND SPINNING as applied to both cotton and rayon featured the spring meeting of the Carders and Spinners Section of the South Carolina Division of the Southern Textile Association, held recently at Parker High School, Greenville, S. C. G. G. Simmons, plant superintendent, Drayton Mills, Spartanburg, S. C., chairman of the division, presided. W. W. Splawn, overseer of spinning, Kendall Co., Pelzer, S. C., was in charge of the two forums.

The first question on the carding program was, "Why use heavy-weight cloth on card room rolls?" It was unanimously agreed that a heavy-weight cloth, from 18 to 22 oz., gives better results with less "hollowing" than lighter weight cloth. W. E. Hammond, superintendent, Balfour (N. C.) Mills, remarked that although the heavy cloth gives an increased diameter, it also supplies a better cushion and reduces fluting. He thinks that the cloth should be changed every time a cot is replaced. J. L. Brannon, overseer of carding and spinning, Hermitage Cotton Mills, Camden, S. C., stated that he thinks the cause of rolls hollowing out is improper stroke of the roving traverse which should be run to within $\frac{1}{8}$ in. of each end.

There was a difference of opinion as to how often cards should be ground when processing spun rayon. R. T. Stutts, superintendent of Woodside Cotton Mills Co., Simpsonville, S. C., reported that on two shifts he grinds about every fifteen or sixteen days whether running rayon or cotton. Mr. Brannon suggested that the frequency of grinding should depend on the weight of the sliver. He grinds every fourteen days when the mill is operating 120 hr. a week on cotton.

Drawing should be creeled simultaneously, according to Frank D. Lockman, superintendent, Monarch Mills, Lockhart, S. C. The majority of the members endorsed this practice. However, J. E. Robinson, overseer of carding, Kendall Co., Camden, S. C., creels half of his cans at one time, because "if he didn't, the back cans would be so full that they would drag over the front cans." He puts half of his full cans at the back of the machine and pushes them when half-emptied up to the front, creeling again on the back.

Smith Crow, general superintendent, Drayton Mills, Spartanburg, discussing beater speeds for rayon, reported that he gets best results with a minimum speed of 600 r.p.m. and maximum speed of 1,000 r.p.m. on a 3-beater machine. Factors which must be taken into consideration include the staple length, type of stock, blend, etc. He uses a porcupine beater running at 600 r.p.m., a blade beater turning somewhat faster, and a Kirschner beater running between 900 and 1,000 r.p.m. in the finisher section. Mr. Brannon advocated licker-in speeds from 350 to 375 r.p.m.

THE NUMBER OF BUFFINGS which a cork roll on slubbers and speeders can take satisfactorily varies in the opinion of several of the mill men. Mr. Robinson, who has 31/32 in. diameter shells with ball bearings, said that three buffings is all he can get without his cots giving him trouble. Mr. Brannon buffs every six months, whether the cots need it or not, and takes them off after five buffings. Mr. Caughman reported running synthetic coverings for fourteen months without buffing of any sort, asserting that they were still going strong at the time of the meeting. These rolls seem to improve with use as they get smoother, he declared.

Several methods of tinting rayon staple fiber were suggested. F. W. Waldrop, of Drayton Mills, said that some plants tint a small bag of fiber and mix it with the rayon on the regular run. W. B. Uhler, of Borne Scrymser Co., Spartanburg, replying to a question from the chair, said that the usual point of tinting is in the hopper at the beginning of the manufacturing process in order to prevent loss of identification. Dyeing the fiber in vats sometimes tends to make the fiber stringy, he alleged. Mr. Stutts uses two methods of tinting in his mill. When tinting in the hopper where one type of rayon is being run continuously, he said that it is advisable to apply the

color in back of the hopper to eliminate cleaning all the way through. When various blends are being used, it is better to tint at the beater chamber because then only part of the picker has to be cleaned when the tint is changed.

W. T. Cresswell, overseer of carding, Springs Cotton Mills, Chester, S. C., suggested that if the fiber were tinted at the front of the card, it would eliminate all colored waste. Mr. Stutts objected to this system because it is very easy to mix up the blend in the picker room, and a small amount of acetate fiber in the wrong place might ruin a great deal of cloth. J. M. Bolt, general superintendent, Chadwick Hoskins Co., Charlotte, N. C., described a system in use at one of his plants whereby the tinting is done at the delivery rolls on the picker. The stock is run out on the floor as it is tinted and removed to a large bin where it is dried for 12 to 24 hr. before being run through the picker again to make the lap. The double blending does not injure the fiber, as it is run through rather slowly.

CONCERNING YARN EVENNESS. Mr. Stutts pointed out that it is necessary to study it from a statistical standpoint, since one extremely high break or one low break does not give an average. The frequency with which a break varies from the standard is the factor which should be considered, based on 200 or 300 breaks instead of just a few.

W. T. Morton, of Monarch Mills, Union, S. C., reported that filling made on long-draft frames tends to cockle if cotton gets under the apron which carries the yarn. Cockled yarn is also caused by the spinner leaving an end loose in creeling. Cleaning out from beneath the apron and cleaning out cradles will help.

John Lockman reported that a vaccum-type cleaner on his spooler removes at least 90% of the loose strings and lint which ordinarily go to the weave room. H. R. Brock described a cleaning device at Martha Mills, Thomaston, Ga., wherein 60 spoolers are fitted up with a special vacuum system designed so that the floor did not have to be cut for outlet pipes. Lint and fly are caught in a bag which is emptied every few hours.

At the close of the meeting, W. T. Morton, of Union, was elected general chairman of the South Carolina Division, succeeding Mr. Simmons. W. W. Splawn, of Pelzer, was made chairman of the carding and spinning section.

Warp Preparation and Weaving

Analyzed at Northern N. C.-Va. meeting of S. T. A.

WARP PREPARATION AND WEAVING problems were discussed at the recent meeting of the Northern North Carolina-Virginia Division of the Southern Textile Association, held at Greensboro, N. C. W. J. Jennings, of Minneola Mfg. Co., Gibsonville, N. C., general chairman of the group, presided. The warp-preparation session was led by A. L. Byrd, of Marshall Field & Co., Spray, N. C. J. R. Copland, of Virginia Mills, Inc., Swepsonville, N. C., was in charge of the weaving phase of the program. W. M. McLaurine, secretary of the American Cotton Manufacturers Association, spoke on the "Personality of Power."

Mr. Byrd opened the first part of the discussion by asking what fluidity of starch is best to use in cotton warp dressing. S. S. Holt, superintendent of Nos. 1 and 2 Mills, Travora Mfg. Co., Graham, N. C., said that he uses a fluidity of 60 in sizing 14s to 30s cotton yarn. J. F. Graves, of White Oak Cotton Mills, Greensboro, added that in handling denim yarns up to 9s he gets the best results with tapioca flour mixed very thick. Jack Reimer, of Chadwick Hoskins Co., Charlotte, N. C., reported that on fine numbers he uses a special potato starch—about 90 lb. to 130 gal. of water on 57s to 60s cotton yarns. E. T. Lollis, of Consolidated Textile Corp., Lynchburg, Va., pointed out that the temperature and humidity of the weave room must be taken into consideration.

Replying to a question concerning the best way of squeezing warps after sizing, C. E. Walker, of Riverside & Dan River Cotton Mills, Inc., Danville, Va., reported that he tries to have as "nice" a finish flannel on the finishing roll as possible. New flannels tend to cause some sizing to stick to the warp in a clear finish. Temperature must be maintained at the same point at all times in order to insure even penetration. A fluidity of 200 to 204 is used by Mr. Walker.

Another member stated that in sizing 10s yarn going into pile fabric there is a tendency for some of the size to remain in the goods and cause bleeding when direct dyes are used if the dyeing temperature gets too high. The greatest variation in shade is in the pile, which also has a tendency to appear glazed in spots.

Temperature of the first cylinder is kept just low enough to prevent the yarn from sticking. Mr. Lollis suggested that it would help to lower the temperature on the large cylinder and raise it on the small cylinder until they are 20° to 25° F. apart. The member cited above then added that a 7-ft. cylinder is used partially to dry the warp before it enters the slasher, which has three additional cylinders. After dyeing, the yarn is rinsed without salt and blown off. Mr. Byrd suggested that the size be checked for acidity and alkalinity.

THE SECOND PART of the program, led by Mr. Copland, was opened with a discussion of the best type of filling fork to reduce broken ends and mispicks. E. J. Wentz, superintendent of weaving, Riverside & Dan River Cotton Mills, Inc., reported that he prefers the center stop motion for Crompton & Knowles looms. Howard Barton, superintendent, Marshall Field & Co., Spray, advocated the use of this same type center stop motion on box looms when weaving two-and-two filling of acetate and rayon. A. J. Hill, Pomona (N. C.) Mfg. Co., remarked that he thinks a double-fork stop motion is better for heavy yarns. Mr. Wentz added that a stop motion must have a real brake on the loom to perform satisfactorily.

Consensus was that cloth going to the dyehouse should be carefully inspected and burled, especially high-priced goods, in order to remove trash, mispicks sewed in, grease spots, etc., the amount of burling depending primarily on the value of the fabric. Mr. Wentz said that he insists on valuable fabrics being periodically inspected at the loom, although burling is done in the inspecting room.

With reference to inspecting wide goods, such as 90 in. or 108 in., Mr. Barton reported that he finds it advisable to use two inspectors on one piece of goods although it probably would be cheaper to use only one. Other members agreed that one person's vision does not spread out enough to cover a surface this wide. Ellis Royal, secretary of the Southern Textile Association, remarked that at one time he made a study of this subject and concluded that one girl could do a better job at a lower cost. When two are used one must stand idle during the repairs on the opposite side. One girl stands in the center and steps from side to side while watching the cloth.

New officers were elected as follows: J. R. Copland, general manager, Vir-

ginia Mills, Inc., Swepsonville, N. C., chairman; T. C. Pegram, superintendent, Erwin Cotton Mills Co., Cooleemee, N. C., vice-chairman; J. O. Thomas, personnel manager, Marshall Field & Co., Spray, secretary. R. H. Armfield, assistant superintendent, White Oak Mills, Greensboro, was elected a member of the executive committee to replace Mr. Pegram whose term expired.

Frightening Photographs

Aid Pepperell in successful safety program at Lindale, Ga., plant

This thumb was so badly mangled in the creel of an indigo machine that it had to be amputated immediately. Photo at right illustrates position of hands used to lift rod which slipped, catching thumb between rod and rod holder

BLOOD-CHILLING but unique photographs of mangled limbs and gaping wounds resulting from accidents in the mill are being used with great effectiveness as part of the safety program at Pepperell Mfg. Co., Lindale, Ga. These pictures, samples of which are shown herewith, coupled with re-enacted picture story of how the accident occurred, are rotated at regular intervals on 25 different bulletin boards throughout the mill.

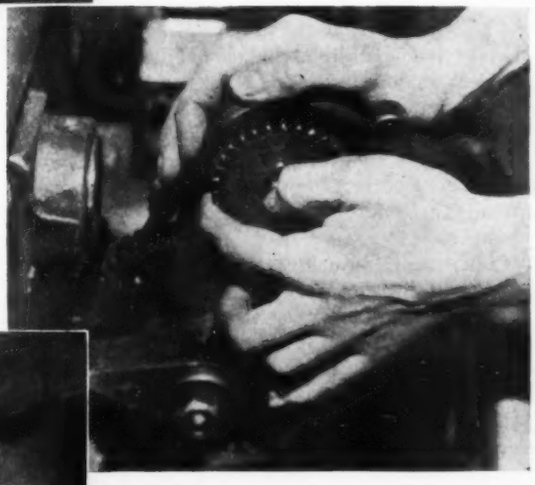
To the squeamish, this may seem like a distasteful method of urging people to be careful, but the fact remains it works. There had not been a lost-time accident in 1,600,000 man-hours work prior to the date TEXTILE WORLD'S reporter visited the plant. It is difficult to say just what part of Pepperell's good record is directly due to these photographs, since this is only one part of a complete and well-balanced safety program which includes a safety committee in each department, close inspection of dangerous machines to see that safety measures are enforced, National Safety Council posters, follow-up of accidents, etc.

One might imagine that the injured workers would object to the use of these photographs as a gruesome object lesson. But strangely enough the victims of accident seem glad to have the pictures made, which is done only on a voluntary basis. "If this will teach some one else to be careful, go ahead and use it any way you like," they say.

One of the few infallible rules at Pepperell is that each employee must report the slightest scratch or bruise on his body to the medical clinic which administers first-aid, and if necessary sees that he gets further medical treatment. A record is made of each visit to the clinic, and each case is followed up by the mill's medical staff until the injured worker recovers. As a further safety measure, each new employee is required to undergo a rigid medical examination for the protection of himself and his fellow workers.

The visual method of stressing safety has been carried beyond the point of "frightening" workers into being more careful. It also is used as an educational means of securing cooperation among the hundreds of persons working in the plant. For example, some time ago the mill decided to set up its own hospitalization fund provided 75% of the people indicated that they wanted it. The story was told through the medium of local personalized pictures on the bulletin board, with the result that 92% of the employees voted for the plan.

The use of photographs of this sort was begun about two years ago by Mrs. Marjorie Smith, Pepperell X-ray and laboratory specialist, who makes pictures as a hobby. It all began when some one came to her with a peculiar kind of injury which she wanted to record for her own information. The result was so successful that she made more pictures of this sort and eventually tried posting them on a nearby bulletin board as a supplement to the regular safety posters. So much interest was shown in these pictures that she started rotating them throughout the mill. No names are used in connection with the photos but every one knows that he is looking at what used to be neighbor "Bill Jones'" thumb. To this



The first joint of this index finger later had to be removed. It was caught in the gear mesh of a one-process picker, as shown in photo at right

personal touch, rather than to the picture itself, is credited the success of the plan. It is believed that similar photos of injuries to unknown persons would be no more effective than any other type of "canned" information.

Pretreatment of Pile Fabrics

To give uniform and even dyeings varies with type of material

By JOHN C. KOPASZ

CORRECT PRETREATMENT is essential to good results in dyeing of pile fabrics. First, all styles and qualities are examined, graded for weaving imperfections, and—if necessary and possible—mended. From this point on, different treatments are required for various materials. The following discussion is confined to the pretreatment of the more common types of pile fabrics and does not consider the specialty fabrics, such as tussah silk imitation sealskin, imitation furs, novelty materials of spun rayon and silk, or jacquards.

Rayon plushes and cloakings, both long and short pile, offer relatively few problems prior to dyeing, there being no need to steam or shear materials of this type in the gray state. Most high-pile rayons are woven of 300-den., 45-fil. yarns, and sizing is not generally required. Unsized goods, unless they are to be padder dyed open width, are readily scoured in the dyebox. If the material is to be dyed a medium-heavy shade or black, the scouring is in effect nothing but a wetting-out, as the dyes, salt, and other dyeing assistants can be added directly to the lukewarm bath. Colors that require a half-bleach and whites can be scoured at 180° F. with a light soap and soda ash solution.

Short-pile rayons are customarily sized, and are occasionally sheared in the gray to correct high and low places. While these fabrics are dyed in rope form, scouring is generally carried out at open width on compartment washers fitted with brushes, sprays, and mangles. A typical procedure for scouring both colored-back and white-back rayons in rope form in the dye box is to run 20 pieces for ½ hr. at 190° F. in a 1,200-gal. bath containing 7 lb. of olive oil soap and 4 lb. of soda ash.

For scouring at open width on a compartment washer with 900-gal. boxes, the following is a typical formula:

Box 1. 5 lb. wetting-out agent at 120° F.
Box 2. 9½ lb. trisodium phosphate at 120° F.
Box 3. 9½ lb. olive oil soap, 7 lb. soda ash at 120° F.
Box 4. 4¾ lb. trisodium phosphate at 120° F.
Boxes 5, 6, 7. Same as Box 4.
Box 8. Cold water.

CLOAKINGS of alpaca and camel's hair are usually woven and sold in their natural colors, and dyeing is obviously unnecessary. However, to remove the natural oils and fats, as well as the greases and dirt incidental to manufacturing, the scouring assumes a special importance. After the goods have been examined, graded, and mended, the pieces are run through a series of bristle and wire brushes to soften and erect the pile. As a rule, shearing is not necessary on these long-pile cloakings, although on some types it is advisable. The goods are then suspended by pins through the selvages either on star frames open on the bottom, or on pin racks, and are steamed. Steaming is carried out in a cottage steamer for 30 min. at 240° F. with 10 lb. pressure. In the event that the steaming is insufficient, it is advisable to increase the time, rather than the pressure or the temperature.

While these fabrics can be scoured in the box, open-width scouring on a compartment washer is usually preferred. The following is a typical formula. On very dirty pieces, if the result is not satisfactory, a second run is indicated.

Box 1. 0.12% trisodium phosphate at 120° F.
Box 2. Same as Box 1.
Box 3. 0.15% soap, 0.1% soda ash at 120° F.
Boxes 4, 5, 6. Same as Box 1.
Box 7. 0.15% ammonia at 120° F.
Box 8. Water at 90° F.

Mohair upholsteries and mixtures, including automobile fabrics, are not sheared in the gray. Steaming of mixtures can be dispensed with in case of such fabrics as the cheaper automobile goods with two and three-way blends and mixes of the pile yarns in which the animal fiber content is 20% or less. Steaming of the well-known red-backs (napthol-dyed filling, sulphur-dyed warp) with 50% and up of mohair, and the rubberized-back automobile goods, as well as most other upholsteries with a high percentage of animal fiber, is standardized at 10 lb. pressure at 240° F. for 1¼ hr. As some mills size their mohair warps heavily and others use little or no sizing, scouring of these fabrics is subject to a greater variation from plant to plant than for other fabrics. To promote uniform and even dyeings, this type of material is dyed in rope form after scouring in open-width on a compartment washer.

The following formula is typical of those used for scouring all except very heavily sized goods. The amounts given are for 900-gal. boxes.

Box 1. Water at 120° F.
Box 2. 5 lb. trisodium phosphate at 120° F.
Box 3. 7 lb. trisodium phosphate, 9 lb. olive oil soap at 120° F.
Boxes 4, 5. Same as Box 3.
Box 6. Water at 120° F.
Box 7. Same as Box 6.
Box 8. Water at room temperature.

Frisés differ from other pile fabrics in that it is rarely necessary either to steam or shear them in the gray. Plain frisés of light weights and fancy frisés can be box scoured, although a speedier and more economical result can be obtained on a compartment washer. If box scouring is desired, it is advisable to tack the pieces loosely; otherwise there will be danger of cracking and creasing the back, leaving what appear to be dye streaks or wrinkles in the finished pieces. Light concentrations of soap and soda ash at 190° F. are used for box scouring. On compartment washers the formula given above for mohairs is satisfactory.

Cotton plushes, both high-pile cloakings and the shorter pile upholsteries are "pre-finished." This treatment consists of steam-carding, shearing, and brushing. Shearing can be omitted on light goods with a very short pile, but on high-quality fabrics it is essential to shear the pieces to correct the high and low places; likewise, to brush and card to lay the pile in one direction, remove loose dirt, and soften and open up the fibers.

All these treatments should be given to the goods in the same direction with the pile. After this preliminary treatment, the material is ready for scouring. Light materials, under 20 oz., can be scoured rope form in a dye-box. A reel dyeing machine with 1,500 gal. capacity can handle 1,000 lb. of cotton plush. From sixteen to twenty pieces, weighing about 1,000 lb. are sewn two in a line. A typical scouring procedure is to boil for 30 min. in a bath composed of 87 lb. of caustic soda and 12 qt. of pine oil. For dark shades and blacks, soda ash, oil, and a penetrant can be used. Long-pile cottons, when box scoured, should be handled in open width.

QUESTIONS & ANSWERS

Spinning Small Lots of Wool

Technical Editor:

Will you please advise us regarding the following problem: What deviation in size in various counts can be expected in spinning woolen yarns in small lots of 20 to 25 lb.? We realize that the stock blends employed will probably cause some variation in size, and from one blend to another, and that in small lots the deviation is greater than in large lots. The yarns in question are mule spun. (8584)

A study of records of batches varying from 30 to 100 lb. shows that the small 30-lb. lots have less variation than the larger lots. We feel that size of lot alone does not play any great part in the variation, except in the manner in which it affects the moisture content, owing to the fact that it takes longer to run the larger lots through, and there is therefore more chance of evaporation.

The hard part in using small batches is in getting the initial grain weight correct. After the correct weight is found, a 30-lb. batch is quickly run through the card. Variation from spool to spool should never be more than 3% and usually 2%.

Machinery for Net Fabrics

Technical Editor:

We inclose herewith a sample of lace or warp-knit material, and will appreciate your advising us how this fabric is made, and who can supply such a cloth. (8719)

We believe this sample can be duplicated on either a tricot or a Raschel machine. On the tricot machine it would merely be a matter of the proper pattern wheel, and any good tricot mechanic would probably make the required wheel. It might require a bit of experimentation to produce the identical pattern, but it should not be difficult.

Low Ends in Jacquard Weave

Technical Editor:

Inclosed is a sample of an acetate satin brocade, in which a peculiar damage appears. Can you advise to what this is due? (8706)

This is a bad case of low ends. Such defects are caused at the loom, and are due to certain harness-twines sagging. When these cords are lifted, the shuttle will generally pass underneath the ends they control when it is picked from the far side of the loose cords. However, when picked from the side nearest the loose cords, the shuttle frequently passes over the sagging warp ends. The defects, therefore, result from the loose ends failing to weave in properly.

Sagging cords may be due to any one of a number of conditions. Humidity may have caused twines to stretch; (when they dry out the shrinking process lifts the eyes to their proper height). On new harnesses, knots may have been tied too low, and require adjustment. The same type of defect may result from loose ends on warps run without drop wires, late timing, low shed, or early pick. We suggest you call this defect to the attention of the mill weaving your fabric, as such conditions are usually fully understood by weavers.

Handling Bobbins

Technical Editor:

Will you kindly let us know what is used most generally in the larger mills in the United States for the handling of roving from the card room to spinning room, and then for the handling of the bobbins of yarn to the conditioning cellar, and then to the weave room? We are using wicker baskets, and have found them fairly satisfactory, with the exception that they become broken rather easily. (8730)

The larger mills in the United States generally use four-wheel trucks for handling or transporting roving from the carding to the spinning departments. These usually are large enough to carry a full doff of roving from the various roving frames.

In many instances these roving boxes or trucks have slatted bottoms with cracks about 1 in. wide to allow any waste that collects on the bases of the bobbins to fall through to the floor, rather than to adhere to the outside surfaces of the full bobbins of roving. Trucks have one 4-in. caster at each end, and two 6-in. casters at the outside edges of the center to allow for ease in steering when being pushed or pulled by the employees. Bodies of the trucks are made of wood, sheet metal, or fiber board, and some of all types are used in most mills.

The same trucks are also used for the return of the empty roving bobbins to the card room, eliminating the necessity of having several sizes of roving trucks for the card room.

For transferring the bobbins of yarn from the spinning room to the conditioning cellar, conditioning units, or weave room, trucks similar to these already described, but slightly smaller, are used. They are usually made of fiber board or sheet metal, when the yarn is to go to the conditioning cellar. However, where the yarn is dumped into the yarn-conditioning unit and wet out, the conditioned yarn is deposited in another truck made of stainless sheet metal. This type of truck avoids rust and also prevents moisture from dripping on the floor.

After the yarn is unwound from the bobbins or quills in the weaving department, these are gathered and carried to the quill-stripping machines. These machines deposit the empty quills or bobbins in the trucks used for bringing the yarn to the weaving department. After being loaded with empty quills or bobbins, trucks are returned to the spinning department.

The receptacles used at the backs of roving frames are usually wooden or canvas baskets made over steel frames. Many mills prefer canvas baskets due to their lightness, clean appearance, and freedom from splinters.

Tricot Fabric Damaged

Technical Editor:

Inclosed is a swatch of tricot cloth made of 100/40/3 viscose and acetate yarn. You will notice on the sewn edge some spots that are placed there by the knitters to aid the girls in sewing to keep the edges straight. I am using a fugitive dye, penetrating oil, and soft water, also putting rubbing alcohol in (1 part alcohol to 6 of the solution) to aid in drying, so the yarns will not cut out in going through the guides and needles. I have been using this same solution for some time and have never had any trouble until recently, when these spots began showing up. We do not seem to have this on the plain or solid viscose rayon, only on the combinations of viscose and acetate—even then, some pieces in the same dye lot and same warp do not have them. Could you offer some formula that will work satisfactorily, and so eliminate this trouble? (8741)

This trouble is due to the fact that the solution you are using is dissolving or saponifying the acetate yarn. The dissolving action may come from the penetrating agent or from the alcohol.

The tinting mixture will have no action on viscose rayon, either in plain or solid shades, since solvents have little effect on this type of rayon. On the other hand, various solvents will dissolve acetate rayon. The reason that this action does not take place on all the lots may be due to the fact that the tinting solution evaporates before it has a chance to do any damage, or it may be due to the fact that the rubbing alcohol is different in different batches; that is,

some of the denaturing agents may have a stronger action than others on acetate.

If the material must be tinted, you might use an oil-soluble dye and dissolve it in an oil, such as a needle oil, rather than water, to make the tint solution. This should not interfere with knitting, to make press-offs, and it can be washed out when the goods are scoured previous to dyeing.

If it is necessary to use a water solution for the tint, you will have to experiment with various water-soluble penetrants and solvents to determine which ones do not have any dissolving action on acetate yarns. However, most water-soluble solvents have a dissolving action on acetate yarn. Grain alcohol without any denaturant might prove satisfactory as a solvent. Make sure also that the penetrating agent, either alone or in combination with alcohol, does not have a dissolving or saponifying effect.

Wool Combing Costs

Technical Editor:

Can you advise me as to how to figure constants for commission combing of different wools? We are planning to take over a top mill and this information would be of great assistance to us. (8664)

Any reliable system of costing for a combing mill can be installed only by men qualified as cost accountants. To produce tops from grease wool requires study of costs in many processes—sorting, scouring, carding, backwashing, gilling (both before and after combing), combing, testing, and packing. During these processes the raw material is separated into various qualities and by-products.

The cost of the material in a pound of top is affected by the value of the wastes and by-products, in addition to the actual costs of production. The costs of production must be determined for each process separately, and should include capital, maintenance, and administration charges. Many of these items can be easily and accurately determined; others, such as capital and administration items, must be distributed over all the processes. It is not a simple matter to do this accurately. When an analysis of production costs has been made a table can be prepared in which the distribution of costs under each process are listed in separate columns. A summation of the results will indicate the costs of production for each process and the total cost of producing a pound of top.

Naturally the cost per pound will depend also upon the actual or potential production of the plant. This will vary according to the quality of wool combed and the tear.

An example of the method, applied to a single item in one process, will explain the procedure. Suppose that in scouring we know the annual cost in dollars of machinery (this as a minimum would represent 5% of the replacement value), the working days per year, and the pounds of top produced per day. Then: (Annual cost in dollars x 100) ÷ (working days per year × pounds of top produced per day) = Cost per pound of top, in cents, of machinery. This procedure can be followed for all items, thus obtaining the information necessary for the tabulation mentioned above.

Having completed the table we obtain as a result of the summation the total production cost of combing a pound of top, based upon a definite production. From these two items we can obtain a constant. Suppose the total production cost per pound of top is 5.13c. and production is 6,000 lb. of top per day. Then, $0.0513 × 6,000 = 307.8. If the tear varies so that production changes (307.8 × 100) ÷ new production = Cost, in cents, per pound of top.

Constants can this be determined for fine, medium, and coarse wools or for combing any other fiber. No two mills will have the same costs of production and every comber must determine his own costs before he can safely quote prices for commission combing.

Sinker Breakage

Technical Editor:

Will you kindly tell us how to stop sinker breakage. We have five leggers that give us this trouble; all are 42 gage, 18 section, and are run about 56 courses per min. All machines are equipped with Bakelite verge plates. (8728)

The sinkers submitted do not appear to have been driven against the verge plates by the action of the jacks, since there is but little wear at the points of jack contact. The most common cause of sinker breakage is that the verge plates are not in alignment, and the catch-bar has been crowded forward to prevent it from flying off while knitting is in progress.

We suggest the following method of realigning a machine: (1) Carefully check and reset the verge plates, where needed, to the gage; then check the distance of the sinker beds from the top table, as a sinker head which is out of line throws a correctly gaged verge plate out also. (2) Reset any jack-beds which are out of position, being careful when you move toward the slur-cock to move the slur-cock back enough to prevent jamming against the verge plate. (3) Carefully set the clearance between the sinkers and the verge plates to a dividing sinker of the same machine gage. (4) Make sure that the catch-bar cam rollers are bearing equally, and that the heavy catch-bar springs are not too light. Then reset the catch-bar to the gage. (5) Take the knitting halves of the catch-bar cams off and make sure that the high point bits are of uniform height, with a surface gage. (6) Realign the needles and adjust for leg length, etc., as required.

There are other factors which enter the sinker-breakage problem, such as uneven speed, worn cams, and—what is often overlooked—worn bearings which allow the catch-bar to be thrown too far forward by its momentum at the end of its farthest forward stroke. If the machine still breaks sinkers after it is straight, it may be necessary to reduce the speed a little.

Shifted Places in Tie Fabrics

Technical Editor:

Inclosed you will find three samples of tie fabrics; upon examination you will note that each sample is shifted. We have been unable to locate the cause of this shifting, and would appreciate any report you could give us on the cause of this defect. (8666)

Shifted places can be caused either by rough handling of fabrics, improper starting of pieces on cut-rollers, or by weaving too great a width for the loom in question.

Cloth should always be handled as near the selvages as possible. No strong pull should be exerted, either warp- or filling-wise. The fabric should always be started straight on the cut-rollers. It should be made certain there are no nicks on the rollers or other surfaces over which the goods slide, which would have a tendency to throw the cloth out of line.

Slight shifting, sometimes hardly visible in the raw material, will show prominently after sizing or gum has been removed. Hence, it is desirable to give close attention even to minor details when seeking to eliminate faults of this type.

Spinning Carpet Yarn

Technical Editor:

Will you kindly post us on charges for custom spinning carpet yarn, using fair quality wool waste, etc. The yarn is to run approximately 600 grains for 50 yd., and is to be put up in skeins or on cones. (8707)

We believe a small eastern mill should be able to produce this yarn for 11c. per lb., provided they are not made financially responsible for waste, rejected yarn, etc. Probably 12c. per lb. would be a fair price, as this would allow a margin of profit and also permit the spinner to take care of any claims for low yield, imperfect yarn, etc.

LOOMFIXERS' MANUAL

COTTON SECTION—Chapter X (Continued)

By IVAR MOBERG

Automatic Filling Motions

WE CONTINUE here description of resetting and re-adjusting Crompton & Knowles stationary filling magazines.

Turn the chopper cam, Fig. C75, so that the chopper-cam-lever roll rests on the highest point of the chopper cam. So adjust the length of the chopper rod that there will be a barely perceptible play between the upper side of the chopper lever and the screw at the upper limit of the chopper-lever slot in the chopper stand. Now turn the chopper cam so that the chopper-cam-lever roll will rest on the lowest point of the chopper cam. At this position, the under side of the chopper lever should rest lightly on the bottom of the chopper-lever slot. If it does not, move the studs in the slot of the chopper-cam lever in or out, and readjust the length of the chopper rod, until the proper movement of the rod is obtained.

With the lay still at extreme front center, so adjust the chopper cam on the camshaft that the under side of the chopper lever, in its downward movement, covers half of the hole for the indicator pin in the chopper stand, as shown in Fig. C76. The chopper cam should now occupy approximately the position shown in Fig. C75, with the chopper lever in its downward movement. The indicator pin should be out of the hole during this adjustment.

The above is the correct timing of the chopper cam on feeler and/or center-fork transfer indications. For side-fork transfer indication, the chopper cam must be timed somewhat later. On looms so equipped, engage the side fork and turn the loom until the indicator pin has just moved in under the chopper lever. Then set the chopper cam so that the under side of the chopper lever, in its downward movement, is just about to contact the indicator pin. With side-fork transfer indication, it is necessary to have a quick-acting filling-stop-motion cam. Otherwise, the chopper cam will have to be timed so late that a dropped bobbin on the giveways will not have time to settle down before being struck by the transferrer. A bad smash may result.

Adjust the length of the spring plunger in the indicator-lever guide, by filing the point or placing washers under the screw head, until the top of the fingers on the indicator lever just clear the under sides of the upper projecting fingers on the vertical slides. With the first cell of the shuttle-box level with the raceplate, so adjust the indicator lever on the sliding shaft that the front finger will rest directly under the upper projecting finger on the front vertical slide. Tighten the setscrew in this position. Level the fourth cell of the shuttle-box with the raceplate and ascertain whether the rear finger of the indicator lever is directly under the upper projecting fingers of the rear vertical slide. If it is not, move the stud in the slot of the angle lever and readjust the length of the box connection until the fingers on the indicator move between the front and rear vertical slides as the first and fourth cells of the shuttle-box are alternatively brought level with the raceplate. The spring attached to the angle lever should have sufficient tension to return the indicator to the front vertical slide after it has been called to the rear vertical slide. If the movement of the indicator lever between the front and rear vertical slides is correct, that between the two inside vertical slides will also be correct when the second and third cells of the shuttle box are level with the raceplate.

So set the crank on the setting-lever shaft that, through the medium of the connecting link, it will position the revoker finger approximately $\frac{1}{16}$ in. above the box plate when the setting lever is down. The finger should clear the tip of a fully boxed shuttle by $\frac{3}{16}$ to $\frac{1}{4}$ in. The finger's length should be so adjusted that when it comes in contact with the cam surface on the box back, with the lay at front center, it will be just sufficiently raised to reset the setting lever. So move the stud in the revoker casting that it contacts the cam surface on the inside giveway sufficiently to withdraw the latter $\frac{1}{16}$ in. from a bobbin on the giveways, when the setting lever is raised to its highest position. This will cause a bobbin on the giveways to drop out of the magazine, if the transfer for some reason is not completed. Otherwise, several bobbins might collect on the giveways and when the transfer finally took place, a serious smash would result. On some later magazines a positive bobbin-release mechanism, driven directly from the chopper-cam lever, drops any untransferred bobbin from the magazine when the lay is at back center.

Place a full bobbin in the magazine and individually so adjust the cradles that they will drop the bobbins on to the giveways with the tip slightly in advance of the butt. If necessary, twist the cradle slightly, until the

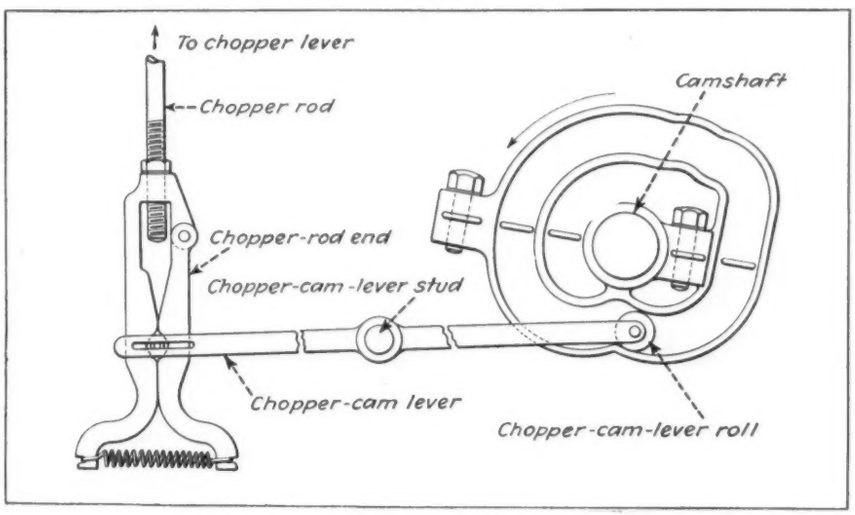


Fig. C75. Chopper cam and connections

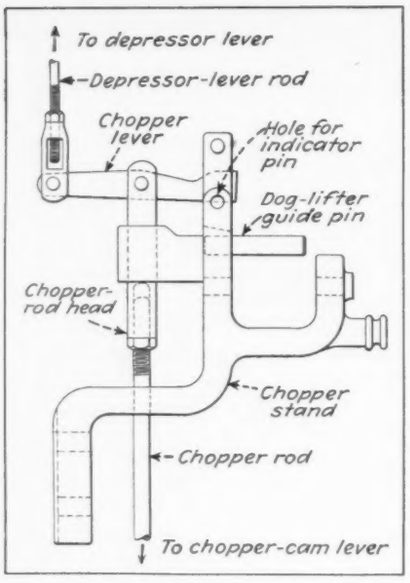


Fig. C76. Chopper stand and parts

bobbin is dropped so that both ends reach the bottom of the giveways at exactly the same time. When the vertical slides are raised, the point of the cradle cam should be not more than $\frac{1}{16}$ in. back of the bobbin-cell front wall in the outside magazine frame. The cradles should turn freely in their bearings, support the bobbins horizontally in both open and closed positions, and not jam against the bobbin-cell wall either of the bobbins contacted before a transfer. It is sometimes necessary to file the point of the cradle cam slightly, to prevent it from biting into the tip of the bobbin above.

On magazines with an upright lifting rod back of the transferrer, so adjust the length of the upright rod that, with the setting lever in transfer position, the transferrer dog will be held a trifle below the normal contact point of the bunter on the lay. This will cause the dog to be raised slightly when it is struck by the bunter. As the dog is forced back by the bunter, a cam surface on its under side resets the setting lever. Some later magazines have the upright rod in front of the transferrer, but setting is similar. Adjust the tension of the transferrer spring until it will just keep the dog and the bunter in contact during the transfer.

Some magazines are equipped with bobbin deflector, the purpose of which is to prevent ejected bobbins from becoming caught in the picker-stick slot. On these, set the lay at extreme front center and so adjust the stop that the blade will be $\frac{1}{2}$ in. from the lay.

Filling-end holders are of two types, fixed and rotary. Fixed holders should be set so that the filling will just clear the lay end. This will facilitate placing of the filling in the shuttle eye after a transfer. However, holders must not be set so low that filling will catch on the lay or picker stick.

To adjust rotary filling-end holders, first attach the arm to the rear upper tie rod of the magazine frame. With the lay at front center, so adjust the position of the arm that the top of the holder will be approximately level with the top of the lay end, and as near to it as possible. The center of the housing should correspond with the center line of the magazine. Tighten setscrews in this position. Remove the back cover plate and adjust the rotor studs by moving the rotor bearing until proper spacing is obtained. The spacing naturally will be less for fine filling than for coarse. Slightly bend the plate to which the rotors are attached, if necessary, to obtain the proper friction.

To adjust the speed of the rotors, turn the adjusting screw located in the housing just below the end of the arm. Turning in clockwise direction will decrease rotor speed; an opposite movement will increase it.

CLOTH DEFECTS due to faulty filling motions are few in number but nearly always major. Most frequent are warp smashes, resulting from incomplete transfer of bobbins. Possible causes of incomplete transfers are: shuttle not in correct transfer position, due to rebounding in the box, or over-retarded; picking from left-hand side too weak, too strong, too late, or too early; improper checking; incorrect position of battery or magazine; incorrect timing of filling motion; transferrer going too far, or not far enough, into shuttle; badly worn shuttle heel springs; broken or crooked bobbin rings. In most of these instances, the shuttle feeler should revoke the transfer, but the revocation may be so late that the bunter strikes the transfer dog before it slips by causing an incomplete transfer to take place.

Broken filling at the selvage is another defect frequently encountered. It is caused by one- or two-ring transfer. It is due to tension of filling having been increased to such an extent, due to insufficient space between bobbin tip and shuttle eye, that it will not stand being beaten up by the reed. Hence, it breaks in the cloth. This may result from one or more of the items listed above.

Broken picks may be caused by improper placing of filling in the shuttle eye, by filling breakage during transfer, by wrong angle of the filling on the yarn placer, or by too high filling-end holders on stationary magazine looms.

When a loom with a rotary battery fails to transfer properly, look for the following faults: shuttle going too far or not far enough into the box, shuttle rebounding, transferrer not going far enough or too far into the shuttle, bobbin disk binding on the stud, latch finger held too low, hold-back pawl and/or ratchet so worn that there is excessive backlash, feed pawl so worn or broken that it will not turn the bobbin disk, feed-pawl spring broken or not given enough tension, bobbin support so high it jams bobbins going into transfer position, top holder so high it prevents bobbin from going into proper transfer position, small-end-bobbin-disk so misaligned that bobbins are not parallel with the lay, transferrer fork too low and/or not concentric with the bobbin tip, insufficient tension or transferrer spring.

If a loom with a stationary magazine fails to transfer on feeler or filling fork indication, look for the following faults: shuttle not going far enough into shuttle box, shuttle rebounding, revoker set too close to shuttle tip, projecting finger on indicator lever not moving under projections on upright slides, cradle cam striking bobbins in its return movement, indicator pin binding in chopper stand or not extending under chopper lever, screw missing in upper end of chopper-lever slot, broken spring in latch of upright slides, projecting fingers on indicator not fully raising vertical slides, too much clearance between setting lever and upright-slide latches, transfer dog held too low, giveways not closing enough to hold bobbin in magazine, butt end of bobbin dropping from cradles before tip end, magazine frames set so close that bobbins do not drop, revoker set too close to box back, chopper cam set so late that bobbins are not on giveways in time for transferrer to act on them.

If a loom with a stationary magazine does not transfer properly, the following faults should be looked for: shuttle going too far into box, revoker set too far from shuttle tip, transferrer not going far enough down into shuttle, setting lever not being fully depressed, with the result that the dog is struck a glancing blow by the bunter, cradles not dropping bobbins with tip ends slightly in advance of butt ends, giveways not properly adjusted to hold bobbins parallel with lay, bobbin release not set to drop bobbins on giveways if not transferred, chopper cam set so late that bobbins do not have time to settle down on giveways before being struck by transferrer, transferrer not concentric with bobbins on giveways, transfer dog set too low when in transfer position, worn bunter and/or transfer dog.

STAPLE COTTON FABRICS

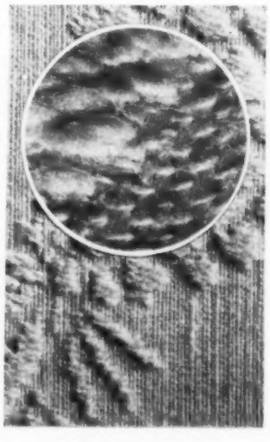
By John Hoye
Fabric Technician with W. Harris Thurston, New York

This fifty-fourth installment of Mr. Hoy's series of articles on staple cotton fabrics—which began in the January, 1936, issue—concludes the discussion of bedspread fabrics and starts that of pile fabrics.

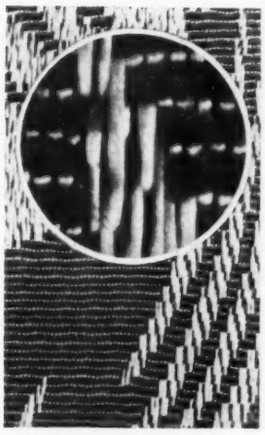
SATIN-TYPE MARSEILLES BEDSPREAD FABRIC. This is one of the more expensive quilted fabrics having a jacquard design with a definite raised or embossed pattern. It generally is made with one fine warp yarn and two filling yarns—one fine and one heavy. The fine warp ends and fine filling yarns are used for the plain-woven ground of the face of the fabric. The extra filling yarn, which is a heavy ply yarn, is used for satin floats of the pattern, which are raised and stand out above the plain-woven ground. On the reverse side the coarse filling yarn weaves in satin floats and also forms a contrasting pattern to the ground so that the spread is reversible. The fabric is made in two major styles—all-bleached white; and with colored warp and filling (fine) yarns and white or contrasting-colored heavy, ply filling yarn.

Example of satin-type, embossed-design, double filling bedspread fabric:

90 in., 72x116, 0.74 yd. finished—fine singles white or dyed warp; 58 picks fine white or dyed singles filling and 58 picks heavy white or dyed ply filling.



Jacquard satin-type bedspread fabric, raised design; 90 in., 72x116, 0.74 yd. finished—singles warp; singles and ply filling



Cotton-rayon jacquard-woven damask bedspread fabric; 80 in.; 92x22, 1.21 yd.; white and dyed (end and end) continuous-filament rayon warp; dyed cotton spiral filling

RAYON AND COTTON-RAYON SPREAD FABRICS. These include jacquard-woven damasks or dobby-design fabrics made with: (1) rayon warp (all white or alternating white and colored ends) and dyed cotton spiral filling yarns, producing a pronounced heavy rib effect for the ground; (2) rayon (dyed) warp and white cotton chenille filling yarns; (3) all-rayon, with piece dyed or white warp and dyed spun-rayon filling, and (4) cotton warp (white, ply) and dyed continuous-filament rayon filling.

Examples of rayon-and-cotton jacquard damask bedspread fabrics:

86 in., 116x22; 1.15 yd.; white continuous-filament rayon warp; dyed cotton spiral filling.

76 in., 52x46, 1.51; white cotton ply warp; dyed continuous-filament rayon filling.

TAILORED BEDSPREAD FABRICS. In this group are many fancy woven cotton and rayon-and-cotton fabrics, which, because of their designs and colorings, are suitable for making up into tailored bedspreads. Fabrics used in tailored spreads include jacquard woven, all-rayon or cotton-rayon brocades, matelasses, damasks, satins, taffetas, and moires.

Finished sizes in inches of various types of bedspread fabrics (scalloped or hemmed) are as follows:

Jacquard fabrics—76x105, 76x110, 76x108, 86x110, 86x105, 90x108.

Dobby fabrics—76x108, 86x108.

Dimity fabrics—(usually same sizes as sheets) 63x90, 72x90, 81x90, 90x108, 63x99, 72x99, 81x99, 63x108, 72x108, 81x108.

Chenille fabrics—cut sizes before washing: 81x114, 99x114, 97x110; finished: 72x102, 90x102, 88x100.

Cut-Pile Fabrics

Cut-pile fabrics include velveteen, corduroy, plush or velour, and velvet. They are characterized by a surface of brush-like fibers which stand upright from the ground of the cloth. The pile may cover the entire surface, as in velveteen, velvet, or plush; or can be in the form of cords, as in corduroy. Pile fabrics—sometimes called three-dimension fabrics—have a softness, richness of texture, with changing light and shadow reflections of the pile fibers not present in ordinary flat-woven or napped-surface fabrics. Pile fabrics are very durable, because in use the wear is spread out over the top of thousands of pile tufts of upright fibers.

The weaving, cutting, and the preparation for dyeing and finishing of cut-pile fabrics require experienced and careful attention, as well as special machinery for these operations. For these reasons, few firms specialize in the manufacture of these fabrics.

Pile fabrics are made with an extra warp or an extra filling yarn. In weaving, floats of this yarn are formed which are subsequently cut to form the pile. The latter is held firmly in the cloth by closely woven ground yarns, which are hidden by the pile. The pile is uncut when first woven and is cut after weaving on a special cutting machine or—as in the case of double-warp pile fabrics including plush and velvet—on the loom.

Corduroys and velveteens belong to a group of filling-face fabrics known by the old term "fustian." (This term also includes the following English fabrics which are flat and do not have a cut pile: beaverteen, imperial, moleskin, satintop, constitutional cords, etc.) In manufacture of filling-pile fabrics, Egyptian, or Pima, Delta, and other long-staple American cottons ($1\frac{1}{8}$ to $1\frac{3}{8}$ in.) are generally used because of their superior strength, luster, and evenness. Combed two-ply warp yarns are used to build a good foundation fabric strong and heavy enough to hold and to carry the weight of the pile. The cotton used for the filling pile is long-staple American cotton, such as Delta, or Benders. Combed soft-spun singles yarn are used, which, when cut, give a smooth velvety pile. The ground picks may be of the same good-quality yarn or may be of a cheaper type. In the lighter-weight pile fabrics, combed, singles warp yarns are sometimes used.

NEWS OF THE MONTH

A Last Word from Paris

Parisian style sources continued to function right up to the end. TEXTILE WORLD's Paris correspondent sent the following dated only two weeks before the German occupation:

"Paris designers have once more proved their invincible courage, resolution and unselfishness in presenting new mid-season collections with little trace of the worries, anxieties and difficulties that now accompany their creative effort. Like true soldiers they defend the "fashion front" to uphold the tradition of Paris as the fashion center of the world. Patou's collection is under the sign of 'Toile'—including linen-like materials, rayon twills, nub effects, heavy lace, cotton tulle. Marcel Rochas features extra wool jackets worn over dark dresses, in herringbones or rainbow stripes; flannels, duvetyns, velours, moire, velvet appear in combinations. Jacques Heins shows beach pinafores, romping skirts, etc., of linen or light-weight wools. Schiaparelli offers the 'Angel' silhouette for evening with soft flowing lines, and fabrics are light and soft accordingly. Le Printemps, the big Paris retailer, offers 'La Soie Parachute', a sheer silk tulle, for dresses. It is parachute silk, washable and durable, and nice models cost only 100 to 150 francs."

Army Wool Goods Bids

Bids on the recent large lots of Army wool goods submitted by 61 firms ranged as follows: On 32 oz. overcoating (4,000,000 yd. wanted) $2.39½ to $3.50 with one bidder at $5.25 and $5.35; on 18 oz. serge (2,220,000 yd.), $2.32¼ to $2.90; on 18 oz. serge, light shade, (2,546,000 yd.) $2.32¼ to $2.88½; on worsted shirting (1,475,000 yd.), $1.30 to $1.85. Among the larger awards reported were $8,233,250 to American Woolen Co.; $3,241,718 to William Whitman Co.; $3,022,062 to J. P. Stevens & Co.; $1,601,875 to Hayward Schuster Co.; $1,522,500 to Peerless Woolen Mills. On the 543,370 blankets bids ranged from $5.24 to $7.00.

Cotton Congress at Waco

The salvation of the American cotton crop lies in greatly increased domestic consumption, said Dr. Claudius T. Murchison, president of Cotton-Textile Institute before the Cotton Research Congress at Waco, Texas, June 30. The foreign markets for both raw material and finished products are lost as a result of war, he pointed out, and the well-being of the millions of people dependent upon the growing and manufacturing of cotton rests on bigger domestic sales. Samuel Lenher, of E. I. du Pont de Nemours & Co., told the Congress of the chemical advances which are beneficial to the cotton market including new dyes, surface-active agents, synthetic resins, water repellents, fire retardants and mildew inhibitors.

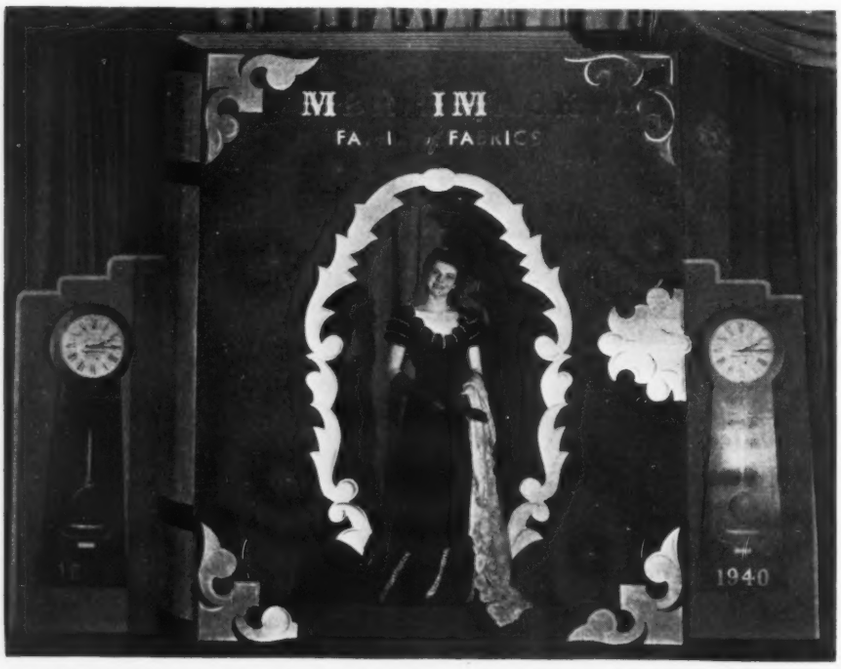
"Crown Rayon's" 10th Anniversary

The tenth anniversary of the "Crown Quality Control Plan" of American Viscose Corp. occurred last month. The plan, providing for approval of all fabrics to bear the "Crown Tested" label by the Better Fabrics Testing Bureau, was applied at the outset chiefly to knitwear but its scope rapidly widened to include piece goods, ready-to-wear, house-furnishings, and more recently upholsteries, comforters, and now men's wear. Its field will be further widened. More than 40,000,000 "Crown Tested" tags and labels are distributed annually. There are now nearly 300 licensees under the plan. About $1,500,000 is spent by retailers annually in advertising the merchandise.

John A. Spooner, advertising manager of American Viscose Corp., in commenting on the future of the plan said, "The future of the Crown Quality Control Plan is limited just so far and no further than the future of rayon itself is limited."

A.S.T.M. Discusses Glass Textile Standards

Proposed standards covering glass textiles were among items discussed at the 43rd Annual meeting of the American Society for Testing Materials held June 24-28 at Atlantic City, N. J. Included in the report of H. J. Ball, chairman of Committee D-13 on Textile Materials were one new tentative specification and eight new tentative methods of test for textile materials; also recommendations for revision of a number of existing standards. Mr. Ball who is head of the department of textile engineering of Lowell Textile Institute was elected vice-president of the Society.



MERRIMACK MFG. CO. made the initial display of its style show recently at the Hotel Plaza, New York, before 1,000 buyers and stylists. Featured fabrics were corduroys, velveteens, chenilles, and wool-and-rayon blends. Above is first of the 35 models exhibited.

Yarn Committee Meets

The joint committee of Carded Yarn Spinners and Cotton Yarn Distributors held its first meeting in New York on June 18, at which time Earl Brower, of Rockfish Mills, Inc., Hope Mills, N. C., was elected chairman. The object of the committee is the consideration of merchandising problems and trade practices.

Representing the Carded Yarn Spinners on the committee are: Earl Brower, J. A. Moore, Carl Bishopric, P. E. Findlay. Distributors are represented by: H. I. Briggs, Charles E. Hopper, Charles S. Schell, John L. Rakestraw. O. E. Fitzsimmons, chairman of the Carded Yarn Group, and Frank L. Slack, president of the Association of Cotton Yarn Distributors, are ex-officio members of the committee.

To Advertise Cottons

The National Cotton Council is planning a promotional advertising program for cottons. It announces that its first paid advertising will be featured in fall issues of three leading women's fashion magazines: *Vogue*, *Harpers Bazaar*, *Mademoiselle*.

Merchandise to be presented in the advertisements will be in the back-to-school theme, and in the popular price bracket.

Athens College Hosiery Mill Starts Operations

The full-fashioned hosiery mill to be operated by students of Athens College, Athens, Ala., strongly opposed by the hosiery industry as unfair competition, was scheduled to begin operating last month. In an exclusive interview with a TEXTILE WORLD reporter, Dr. E. R. Naylor, president of the college, said:

"The purpose of this knitting mill is to furnish our students with a means of earning their expenses while in college —not to train workers for the hosiery industry nor to compete with orthodox manufacturers. The hosiery industry appeared to be the only thing which offers wages high enough to help substantially the students who can afford to be away from their classes only four hours a day. Half a dozen garment manufacturers were interested in establishing a plant here, but the wages paid in this industry are not sufficient for our purpose.

"Our present mill, sponsored by a philanthropist who does not wish his name to be known, consists of a brick and concrete building 60 x 100 ft. equipped at the present time with six leggers and two footers.

"Cooper Wells & Co., Decatur, Ala., will buy the output, which is expected to be about 100 doz. pair per day at first. This company guarantees cost plus a 4% margin, and will collect the hosiery in its trucks at regular intervals.

"The mill will run four 4-hr. shifts daily, or a total of 16 hr.

"Our mill is meeting all the requirements of the wage-hour law, paying the minimum wage while the students are learning to operate the machinery. In addition, the college is participating in the workmen's compensation insurance plan, social security and other measures required by regular knitting mills, although it probably would be possible to secure exemption from some of these.

"The backer of this project has agreed to put up money for a second unit during the next year and a third unit following that, which when completed will employ a total of 600 students."

TEXTILE MILL SIDELIGHTS—No. 17

"Circumstantial evidence leads me to believe you've been loafing again, Mendolson."

Cotton for Insulation

Cotton, made flame-proof by chemical treatment, has been found suitable for insulation in the construction of homes and other buildings, as it can be applied effectively between walls, floors, ceilings, to insulate against heat, cold and sound.

As part of the cotton-promotion program of the U. S. Department of Agriculture, a payment of 6¢ per lb., up to 6,700,000 lb., of insulation made of 50% cotton, and 50% spinnable waste or linters, will be made to manufacturers whose applications are approved for the manufacture and sale of the material. So far two companies have met the specifications and received the subsidy: Barnhardt Bros. Mfg. Co., Charlotte, N. C., on 500,000 lb.; and Taylor Bedding Mfg. Co., Taylor, Texas, on 2,500,000 lb. It was the latter company which pioneered in the field of cotton as insulation with their product "Insul-Cotton." (TEXTILE WORLD, Oct., 1939).

Compile Freight-Rate Data

The Traffic Department of the Textile Fabrics Association has published a complete compilation of freight rates to apply on shipments of unfinished cotton piece goods, unfinished mixed cotton and rayon piece goods, unfinished mixed rayon and cotton piece goods and unfinished rayon piece goods.

The rates compiled apply between 350 gray mill points to all finishing plant destinations in the North and in the South and the rates published apply via all-rail, rail and water, rail-water, rail, and motor truck routes.

The information contained in this compilation is of particular interest to buyers and sellers of gray goods and is

TEXTILE CALENDAR

A.A.T.C.C., South Central Section, Annual Summer Outing, Lookout Mountain Hotel, Chattanooga, Tenn., Aug. 2 and 3, 1940.

National Safety Congress, Stevens Hotel, Chicago, Oct. 7 to 11, 1940.

American Association of Textile Chemists and Colorists, 20th annual meeting, Hotel Commodore, New York, Oct. 18 and 19, 1940.

Fourteenth National Exposition of Power and Mechanical Engineering, Grand Central Palace, New York, Dec. 2 to 7, 1940.

Southern Textile Exposition, Textile Hall, Greenville, S. C., March 31-April 5, 1941.

published in five sections, all of which are now available for distribution.

All members of the Textile Fabrics Association have been furnished a copy of this book without charge and other copies are available for gray mills, finishers, brokers and other interested parties at a nominal sum.

Offers New Construction for Combed Lawns

Cluett, Peabody & Co. has proposed a new construction to take the place of the old standard 40-in., 88 x 80s, 8.50 yd. combed lawn where that cloth is to be Sanforized. More complete shrinkage resulting from this process often produces a cloth somewhat narrower than results from the older finishing method. The proposed new construction is 44 in., 80 x 76, 8.35 yd., which, when finished and Sanforized, becomes a 39½ in. fabric 89 x 75, 9.62 yd. This is a close duplicate of the finished results from the former standard, which when finished without Sanforizing produces a cloth 38½ in. wide, 89 x 76, 9.58 yd. This suggested lawn construction follows a similar one made on two print cloths, reported in these columns in May and is for the purpose of setting up satisfactory gray goods so that the ultimate Sanforized product may be in a width suitable to the cutting-up trade.

Hosiery Board Meets in Asheville

The board of directors of the National Association of Hosiery Manufacturers held its summer meeting in Asheville, N. C., June 28. Dinner following the meeting was attended by many additional hosiery mill executives through cooperation with the Southern Hosiery Manufacturers Association. The committee in charge was headed by R. O. Huffman, chairman, and Taylor R. Durham, secretary.

N. A. C. M. Overseers' Meetings

The National Association of Cotton Manufacturers recently held a series of four Overseers' meetings in Boston. At these meetings, which represented a continuation of a similar idea carried out in other years, the conduct of the programs was given over completely to the overseers themselves.

In planning the schedule, Russell T. Fisher, president of the association, requested each participant to submit questions of general interest in advance of each meeting. Selections from these questions, all relating to practical manufacturing problems, formed the basis of discussion although spontaneous questions likewise were welcomed during the sessions.

General subjects of discussion and meeting chairmen were as follows: Carding—May 3: B. F. Brady, Pepperell Mfg. Co., Biddeford, Me. Spinning—May 10: S. Goodhue, Nashua Mfg. Co., Nashua, N. H. Warp Preparation—May 17: Gustave LaMarche, Wamsutta Mills, New Bedford, Mass. Weaving—May 24: Louis Cocker, Ponemah Mills, Taftville, Conn.

Outerwear Group Meets at Milwaukee

The Western District group of the National Knitted Outerwear Association met June 5 at Woodmont Country Club, Milwaukee, Wis. Sidney Korzenik, secretary of the national association, spoke on the wage-hour law and the application of certain of its details to the outerwear industry. He indicated that the premiums for overtime work for unskilled labor might be avoided by employing a larger number of workers during regular hours, but he added that the limited number of skilled workers available made it impossible to avoid overtime in that category. He analyzed the situation in the event that an inflationary trend should develop because of the war, but he added that there was less reason to anticipate inflation now than there was in 1914.

The Western group elected the following as national directors from the district: I. B. Davies, Bradley Knitting Co., Delavan, Wis.; Armin Rosenberg, Reliable Knitting Works, Milwaukee; Sam Wiener, Mode Knitting Mills, Chicago.

Stresses Value of Cost Knowledge

Earl Constantine, president of the National Association of Hosiery Manufacturers, New York, addressed the National Association of Cost Accountants on June 27 at their meeting in St. Louis. He stressed at the opening of his speech that the price which may be profitless without the owner knowing of it is the principal problem with which industry has to deal in the field of profitable operation.

"It should be evident that an industry which generally enjoys good costing practices," he said, "is bound to be a

CROWD OF SPECTATORS in World of Fashion building at World's Fair watch fashion pantomine "Silks for My Fair Lady". The heroine rises from luxurious silk draped bed and is dressed by her maid. The silk industry exhibit is backed by International Silk Guild

healthy and more desirable industry than one where the reverse condition exists. From this there naturally follows that if an industry is maintaining an industry-wide organization whose general function it is to do those things which improve the industry, such organization cannot well avoid concern in the cost-accounting practices prevailing, nor escape from a responsibility to do those things which make for ever sounder performance."

He closed by saying that the lawmakers and courts recognize that proper interchange of information within an industry tends to stabilize that industry. He also pointed out that competition within many industries has reached a degree which is bringing about widespread distress not only to management but equally to labor.

Introduced Rayon-Wool Blend in Rug

Bigelow Weavers introduced on July 1 "Suffield," a new type rug woven with a yarn blend of 50% wool and 50% rayon in a 4⅔ row Axminster construction. Tests are said to show that Suffield will wear equally as well as an all wool pile fabric of a similar construction. The rug is approved by the Better Fabrics Testing Bureau. The wool and rayon blend is said to retain the natural resiliency or "springy" feeling of wool. A wide range of patterns and styles is available in "TAILOR-MADE" rug sizes and in 3/4, 12/4 and 16/4 broadloom widths. Price is $25.25 for 9 x 12 size, f.o.b. mill. Bigelow-Sanford announced that there was no price change in their line July 1.

Offers Full-Fashioned Hosiery of High Tenacity Rayon

Glen Raven (N. C.) Knitting Mills is now offering a line of full fashioned hosiery for women made of high-tenacity, viscose-process rayon from North American Rayon Corp. J. P. Voorhees Sons Co. is the selling agent. The stocking is of the "service-sheer" weight, of 42 gage, made from 60 to 75 denier yarn. It will wholesale around $4 a dozen and will retail from 49 to 59¢ a pair, depending upon the individual store's policy. The trade will now have an opportunity to observe reactions to a line of hosiery made from one of the new stronger rayons.

New Phila. Textile Dean Honored by New Yorkers

Two New York textile clubs met during the past month to do honor to M. Earle Heard, recently appointed dean of Philadelphia Textile School. Nearly 100 members and guests of the Textile Square Club tendered a luncheon in Dean Heard's honor on June 25, and sixty former students of the school, members of its recently formed New York Club, gave a dinner on June 26 at which the dean was honored guest and principal speaker.

In each case, Dean Heard pointed out to the groups the importance which he places on receiving the cooperation of both former students of the school and of the market as a whole. He also outlined his ideas and plans for maintaining and, if possible, improving the school's excellent reputation, and paid tribute to the retiring director, Dr. E. W. France, who was characterized the "dean of deans."

At both meetings various men well known in the industry were called on for short talks. In every case they offered enthusiastic cooperation to the dean, and all shared his optimism concerning the Philadelphia school's future.

Harry Riemer, *Fairchild Publications*, president of the Textile Square Club, acted as chairman of its meeting; Milton Schmidt, E. F. Timme and Son, president of the alumni group, was chairman at the dinner meeting.

A HALF-AND-HALF sweater, hand-knit, and sold by Saks Fifth Ave., New York, at $4.95 for each half. The two parts, each merely a short sleeve and wrap-around are in contrasting colors: possession of a number of different halves in various colors gives wearers wide variety in color schemes. Worn with slacks as play-suit combination. The half which is worn on outside (the white in above picture) is knit slightly longer than one which is worn inside.

THE RAYON INDUSTRY exhibit at New York World's Fair, sponsored by the Rayon Yarn Producers Group, has been viewed by thousands of persons since opening late in May. Above is a representative audience pressing about the platform for a view of the style show.

Alabama's Textile Increase

Alabama had 54 new textile industries established during 1939. The investment involved amounted to $3,000,000. In addition to the new plants at least $20,000,000 worth of improvement has been made at existing plants, including expenditures at Avondale Mills and Alabama units of West Point Mfg. Co.

"America's finest fabrics owe much of their perfection to the perfect quality of America's finest bobbins."

CLOVERLEAF BOBBINS

By developing bobbins to meet with scientific exactness the varying requirements of individual manufacturers in the building up of silk and synthetic yarns, the Clover Leaf Organization contributes to the development of higher speeds, greater precision, better fabrics and bigger profits . . . Ask *your* throwster.

CLOVER LEAF MANUFACTURING CO.
HONESDALE, PENNA. : : SINCE 1899

W. A. Kennedy, Dillworth Station, Charlotte, North Carolina
Dana R. Crawford, Box 176, Providence, Rhode Island

Cottons Quiet After Spurt

Worth Street experienced the most active market since the boom of last September during the second week of June. Aggregate goods trading for that week was estimated to be in excess of 300,000,000 yd. Prices advanced ¼ to ⅜c. which, however, did not make up all the ground lost during the very dull and weak period during May. War goods, such as ducks, bandage cloths, mechanical fabrics, etc., were active and there was considerable breadth to the market in which many other varieties of fabrics shared. As the month closed, there was a natural let-up.

Army Business Stabilizes Wool Goods

Following a period of uncertainty, slack business and mill curtailment, the wool goods market took a sharp change for the better when large Government orders came upon the horizon around the first of June. Spot tops in New York which were quoted at 94c. on May 31 were up to $1.02 on June 7, and to $1.05 on June 14 and $1.00 on July 3.

Over the next five months mills will make about 14,000,000 yd. of apparel fabric for the Army, in addition to substantial quantities of blankets, on business already placed. This situation has jumped the unfilled orders for men's wear to about 35,000,000 yd. compared with 20,000,000 yd. at the end of June a year ago. Buyers of civilian lines are not being stampeded into the market, but they are now placing orders whereas, four weeks ago they were hesitating. The American Woolen Co. has advanced its men's woolens 5¢.

Hosiery Market Sluggish

The primary market for women's hosiery has been dull and limited in recent weeks despite the feeling expressed in some distributing quarters that the merchandising of Nylon hosiery in May developed a real revival of consumer interest in hosiery matters. Manufacturers are running short time, and despite the relative strength of the raw silk market in June, a price cut of 10¢ a dozen on one unbranded line of full-fashioned goods was announced.

By the middle of June, numerous retailers were sold out of Nylon hosiery and these concerns were making announcements that no more was to be offered until July. Holeproof Hosiery Co. has announced the use of Nylon for reinforcing toes of several of their 50c. and $1.00 staple and fancy numbers. Holeproof is also using DuPont Cordura in hosiery lines for fall. Interwoven Stocking Co. is preparing several lines of men's all Nylon flat knit socks for the fall.

Raw Silk Is Firmer

The raw silk market made an appreciable advance early in June and eased off with minor fluctuations after that. Toward the close of the month the price of Crack Double Extra 78% in New York was $2.60, while the corresponding price of grade D in the Yokohama spot market was 1400 yen. May takings of raw silk, at 18,997 bales, were the smallest monthly takings since 1921, and it was not expected that June would show reversal in trend.

Rayon Gains Ground

Business in rayon yarn during June was reasonably good and July offerings were well absorbed by the middle of the month. This is particularly true of the fine deniers which have for several months had an edge on the rest of the market. Probable shortages in wood pulp and the already-experienced higher prices for this raw material, suggest the probability of higher rayon prices.

This and That

W. R. Grace & Co., New York, through C. A. Kern, manager of the wool department, has shown to interested members of the trade a colored motion picture on the subject of Peruvian alpaca.

Botany Worsted Mills are planning a commercial tie-up between their wool neckties and a booklet showing 17 magic tricks which will be distributed through dealers. The "magic" of the necktie is a manner in which it straightens itself out after a night's rest on the customer's tie-rack.

"Facts in Figures About Atlanta" is the title of a booklet just issued by the Industrial Bureau of the Atlanta Chamber of Commerce.

Story of Nylon is now told in a movie reel in color released by Paramount Pictures, Inc., and sponsored by *Popular Science.*

American Viscose Corp. has started commercial production of acetate rayon staple fiber at its Meadville, Pa. plant. It is called "Seraceta Fibro."

More than 300 members attended the 14th annual outing of Philadelphia Textile Manufacturers Association last month at Oreland, Pa. Congressman Hamilton W. Fish, New York, delivered the principal address at the banquet.

The "ringless" hosiery patent of Charles F. Kaufman, New York, was held invalid recently by the Supreme Court of Canada.

Ephraim Freedman, director, Macy's Bureau of Standards, addressed the American Association of Textile Technologists at a meeting June 5 in New York. His topic was "Evaluation of Special Finishes for Textiles."

Patents covering manufacture of a new fiber having a casein base, and a method for producing fire retardant and water-resisting fibers, have recently been issued to Earl O. Whittier, and Stephen R. Gould, Department of Agriculture scientists. The patents are to be released for free use by the people of the United States.

Development of color-fastness standards for spun-rayons, with the work in charge of E. M. Edgerton, chairman of the Technical Committee of the National Association of Finishers of Textile Fabrics has been suggested by various groups in the market.

The annual outing of the American Association of Textile Chemists & Colorists was held recently at Myrtle Beach, S. C. Approximately 500 members from the Carolinas, Alabama, Georgia, New York, Rhode Island, and Virginia attended the three-day outing.

Pepperell Mfg. Co. has introduced its "Artisan Herringbone Twill" designed for the volume manufacture of men's matching pants and shirts suitable for work clothing, but carrying more style value than most fabrics used for this purpose. The fabric is 36 in. wide and weighs 1.95 yd. for pantings and 2.95 yd. for shirtings.

A new method for the manufacture of fabric labels, utilizing rotogravure equipment and vat dyes, instead of printing inks, has been announced by Jackmeyer Label Corp., New York. Features cited for labels thus produced are: guaranteed fast-color; intricate designs, small lettering, and photographic effects, which are not obtainable in woven cloth labels.

Alexander Smith & Sons Carpet Co. has moved its "talking room" exhibit from the Rockefeller Home Center to the "America at Home" building at the New York World's Fair. There are five of these miniature rooms connected with sound reproductions which describe the features of the Smith carpets used therein.

● You will find the caustic soda made by Pennsylvania Salt Manufacturing Company so well refined that it meets your most exacting requirements for mercerizing or other textile processes.

A double refining process makes this caustic soda low in salt content, low in carbonates, and extremely low in iron. In addition, Pennsylvania Salt Manufacturing Company maintains the most rigid quality-control to safeguard the uniformity of the product, using, among other methods, that of spectrographic analysis — one of the most sensitive and precise known to science.

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World Rayon Production

Sets new high record in 1939; staple fiber nearly equals filament

TOTAL WORLD RAYON PRODUCTION in 1939 (yarn plus staple fiber) at 2,230,960,000 lb. was a new record high production total, exceeding the previous record of 1,947,305,000 lb. produced in 1938 by 15%, according to the *Rayon Organon*. The tremendous growth in the output of rayon over recent years is clearly brought out by the fact that this 1939 world total is over twice the output in 1935 and is almost five times the total production in 1930.

The 1939 production of rayon filament yarn alone amounted to 1,147,280,000 lb. This total, although somewhat less than the all-time record of 1,199,260,000 lb. in 1937, was 16% above the 989,690,000 lb. produced in 1938.

The world production of staple fiber in 1939 at 1,083,680,000 lb. was a new record total for this branch of the industry. This total compares with the previous record of 957,615,000 lb. in 1938, or an increase of 13%. It is interesting to note that the production of staple fiber in 1939 was nearly equal to the production of filament yarn, thus essentially repeating the 1938 relationship.

Production of rayon filament yarn by the viscose process in 1939 at 81% of the total was the lowest on record for this process. On the other hand, the acetate process improved its relative position to 15% of the total, while the cuprammonium process retained its position at 4 per cent of the total world output of rayon yarn. Although the production of rayon by the nitrocellulose process is not large enough to measure percentagewise, it will be noted that the increased production of this type of yarn by Brazil has raised the world total of yarn produced by this process to over 4,000,000 lb. in 1939.

The table below shows the world production of cotton, wool, rayon, and silk by years from 1930 through 1939. The combined total of these four fibers in 1939 amounted to 18,555,000,000 lb., which was only slightly above the 18,295,000,000 lb. produced in 1938 but still about 18% below the all-time record high in 1937.

Both wool and rayon set new record-high production totals in 1939. By so doing, wool accounted for 13% of the 1939 four-fiber total, while rayon continued its year-to-year progress by improving its relative position to 12% of the combined total. World cotton production in 1939 remained essentially at its 1938 level, thus accounting for 74% of the world four-fiber total, while 1939 silk production declined below its 1938 total, thereby amounting to about 1% of the four-fiber total.

WORLD PRODUCTION OF COTTON, WOOL, SILK, AND RAYON

(Millions of Pounds and Percent)

	COTTON		WOOL		SILK		RAYON		TOTAL	
	Lbs.	%	Lbs.	%	Lbs.	%	Lbs.	%	Lbs.	%
1930	12,400	*82*	2,220	*14*	130	*1*	457	*3*	15,207	*100*
1931	12,900	*82*	2,230	*14*	126	*1*	508	*3*	15,764	*100*
1932	11,500	*81*	2,200	*15*	116	*1*	535	*3*	14,351	*100*
1933	12,700	*82*	2,170	*13*	122	*1*	691	*4*	15,683	*100*
1934	11,400	*79*	2,120	*14*	125	*1*	824	*6*	14,469	*100*
1935	12,800	*79*	2,160	*13*	121	*1*	1,080	*7*	16,161	*100*
1936	15,000	*80*	2,230	*12*	119	*1*	1,321	*7*	18,670	*100*
1937	18,500	*81*	2,280	*10*	121	*1*	1,818	*8*	22,719	*100*
1938	13,900	*76*	2,340	*13*	108	*1*	1,947	*10*	18,295	*100*
1939	13,800	*74*	2,420	*13*	104	*1*	2,231	*12*	18,555	*100*

Atlanta Club's Birthday

Dinner Meeting on May 6 and Golf Tournament on May 28

ATLANTA (Ga.) TEXTILE CLUB, under the able direction of R. A. McKay, president, and Harry McGinty, secretary, celebrated its first anniversary on the evening of May 6 with a stag dinner-party at the Henry Grady Hotel attended by 23 members and guests. The "Pot-of-Gold" prize was awarded Bill Horton in a drawing contest. This club is an outstanding example of friendly social relations among competitors.

Another function of the club was the golf tournament held May 28 at the Black Rock Club with 24 divot-digging golfers working up appetites for the barbecue which was served at the conclusion of the eighteen-hole match. Prizes went to Ed Overton, of Scoville Mfg. Corp., for low net; Ranson Burts, of A. Steinam & Co., Lane Cotton Mills, and H. London & Company, 2nd low net; and John Boyle, of Eagle & Phenix Mills, for high gross score.

Dick Stone, Royall Calhoun, H. C. Allen, Sr., George Henderson, Bob McKay

Tom McKenna, Ranson Burts, Harry Richardson

Bill Horton, Gene Landers, George Vaughn, H. C. Allen, Jr.

H. R. Hotchkiss, Louis Lynch, Bill Hudson, Ed Overton (the winner)

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Whether for light, medium or heavy-duty service, you'll find in the Darnell line the exact type to meet your individual needs.

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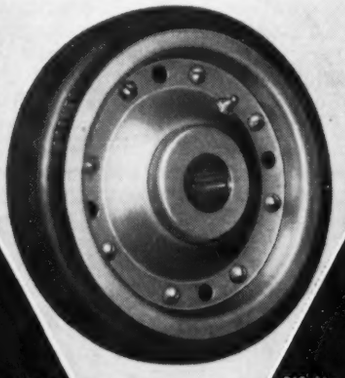

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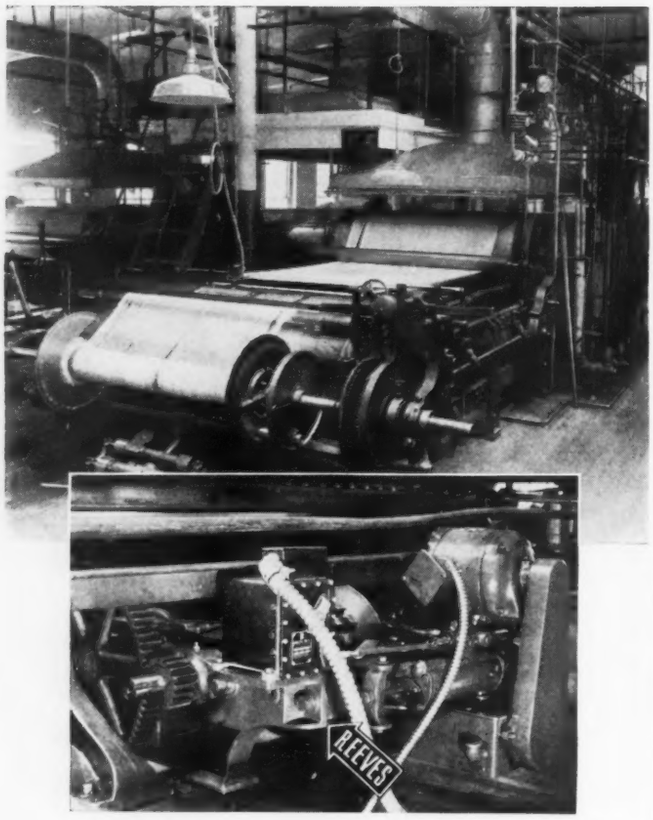
HIGHER REGAIN IN RAYON YARNS

with Reeves-Equipped Slasher Control



● The new system of moisture-control for slashers, introduced little more than a year ago, is demonstrating its effectiveness for rayon as well as cotton yarns. Pictured above is installation on a five-cylinder rayon slasher in an eastern mill. Moisture regain is being controlled by this equipment within one quarter of one per cent plus or minus of desired value.

Contributing largely to efficiency of the control is the **REEVES** Variable Speed Transmission. When actual moisture exceeds or falls below desired value, **REEVES** Hydraulic Automatic Control speeds up or slows down the Transmission which is connected to main drive shaft of slasher, thereby restoring desired volume.

Only the **REEVES** provides sensitive, accurate speed adjustability like this. That's why leading manufacturers of textile machinery incorporate **REEVES** Speed Control as standard equipment—and why **REEVES** units are widely used to modernize machines in service. Perhaps you have a problem that **REEVES** Speed Control will quickly solve. Write for copy of 124-page book, G-397, describing the **REEVES** line and its use in textile processing.

REEVES PULLEY CO., *Dept. W,* COLUMBUS, IND.

Reeves SPEED CONTROL

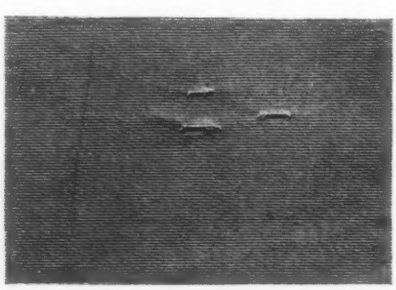
Causes of Slubs and Gouts

List supplied to Spinners at Bibb gives 34 conditions to avoid

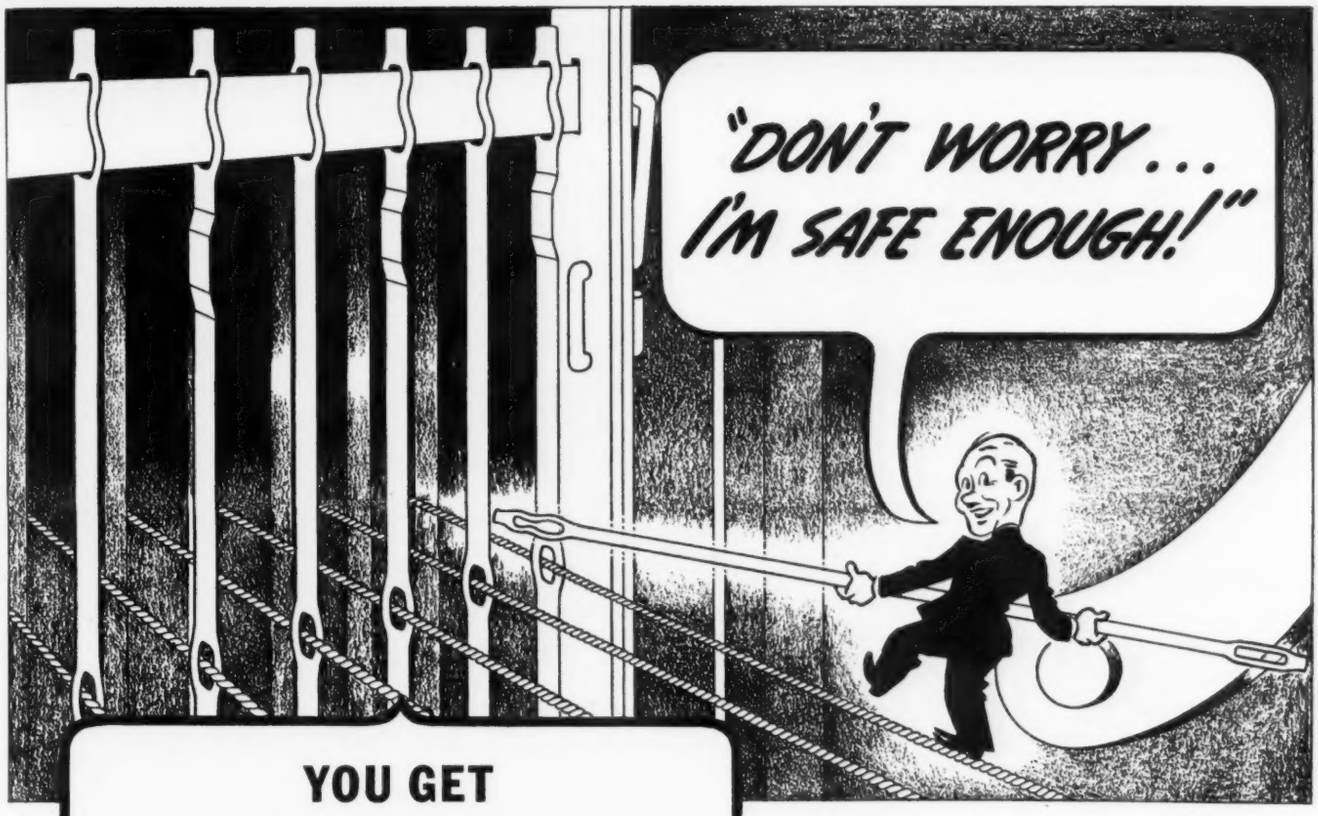
SPINNERS AT BIBB MFG. CO. with mills at Macon, Columbus, and Porterdale, Ga., are supplied with a list of causes of slubs and gouts, and are instructed in the interest of quality to look out for these faults at all times. This practice has been helpful in reducing ends down in spinning.

The list of causes for slubs and gouts follows:

1. Wiping backs with frame running.
2. Fanning-off with frame running.
3. Brushing rails too high with broom.
4. Not running out sides often enough.
5. Not picking flat clearers clean and often enough.
6. Dragging lap-stick on end when cleaning it.
7. Spinners putting up end with large lap on lap stick and carelessly letting it roll against end.
8. Back lap-sticks not being cleaned properly.
9. Bugs on rovings.
10. Tailings of roving not being picked off skewers and roving.
11. Blowing down overhead when running.
12. Hard ends coming through rollers.
13. Roving boards and underneath creels not being wiped properly.
14. Not picking fly off roving and yarn after blowing off.
15. Roving traverse not being set properly.
16. Chokes underneath long-draft aprons and also on steel or leather rolls.
17. Improper weight on rolls.
18. Roll cuts out of line with rolls.
19. Bad rolls—creased, worn or rough.
20. Spinner carelessly dropping fly from side board or brush.
21. Spinner letting lap run around revolving cleaner too high.
22. Slubby roving from card room.
23. Dirty roving.
24. Dirty rolls and long-draft aprons.
25. Carelessness in picking rolls.
26. Dirty backs, blowing fly into end.
27. Front lap-stick not turning with ends down.
28. Wiping roller bars carelessly.
29. Spinner making bad piecings.
30. Floor dirty.
31. Coarse work not kept clean enough.
32. Roving boxes not being cleaned properly.
33. Settle rolls checked up.
34. Top of frames dirty.



Such defects as above in woven cloth might be prevented by care in the spinning room



YOU GET FEWER WARP BREAKS WITH EMMONS HEDDLES

Yarn passing smoothly through the scientifically stream-lined eye of an Emmons heddle will stay strong, round and unbroken beneath the weight of that invisible tightrope walker — tension.

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Eye-smoothness, high tensile strength, correct flexibility and durable, corrosion-resistant cadmium or nickel plating can be taken for granted when you buy the heddle with the Pittsburgh Testing Laboratory's "Certified" tag and the Emmons "Inspected and Approved" seal. Both the tag and the seal mean long life, lower replacement costs.

Your trial order — promptly delivered — will win this added security for your mill. Order now!

THE "INSPECTED AND APPROVED" SEAL IS ON ALL EMMONS LOOM HARNESS EQUIPMENT.

Attached to Emmons Heddle Frames, it means hand-picked lumber (no knots) . . . 2 coats of shellac (moisture proof) . . . careful smoothing (lint won't stick) . . . rust-proof hardware and metal parts . . . anti-vibration positive barlocks — in other words, lively weaving and lower replacement costs.

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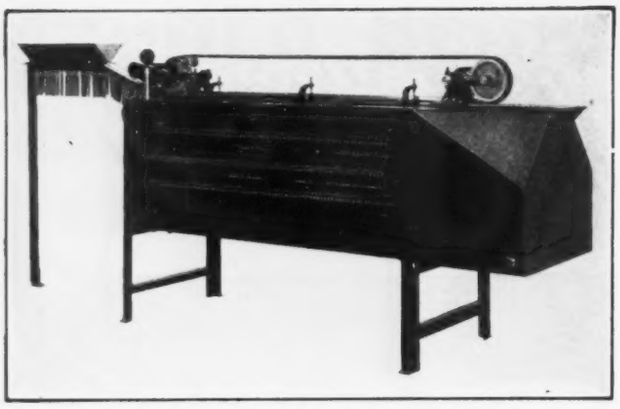

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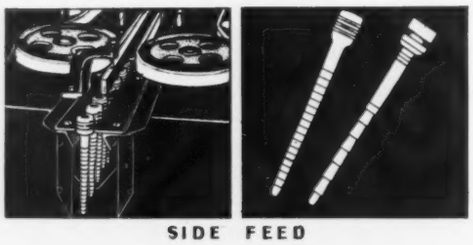
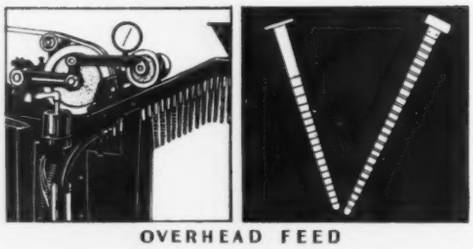
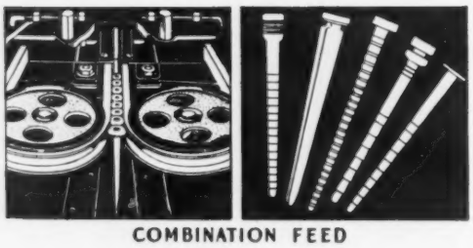
Adaptable to Your Needs



SIDE FEED



OVERHEAD FEED



COMBINATION FEED

With the aid of the three feeding mechanisms, shown above, the New Type "L" will clean a wide variety of Rayon and Silk quills at a surprisingly high rate of speed. Let us make a test on your bobbins and prove that the machine is not only adaptable to your needs, but that it offers the most efficient and economical method of bobbin cleaning known to the industry.

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The **Terrell Machine Co.,** *Inc.*

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NEWS ABOUT MEN

Samuel Yates Austin is the newly elected president of Avondale Mills of Alabama, succeeding **Bragg Comer** who has become chairman of the executive committee. **Donald Comer** will continue as chairman of the board. Mr. Austin has been in business on his own account since resigning from the organization of Callaway Mills with which he had been associated for around 25 years.

John Wycoff Mettler, president of Interwoven Stocking Co., New Brunswick, N. J., has been elected general chairman of the National Council for Promotion of Father's Day, Inc., to serve until Father's Day, 1941, which falls on June 15.

Robert J. Murray, of Weil Bros., New York after serving two terms as vice-president of the New York Cotton Exchange, was last month elected president. **Gustave I. Tolson** was elected vice-president, and **William J. Jung,** treasurer.

John P. Green was made treasurer emeritus of the Textile Square Club, New York, last month. Mr. Green had been treasurer of the club since its organization 15 years ago. **Ed Murray,** of Bates Fabrics, Inc., who has been assistant treasurer, succeeds him as treasurer, and he in turn will be assisted by **Ed Nugent** of Wamsutta Mills.

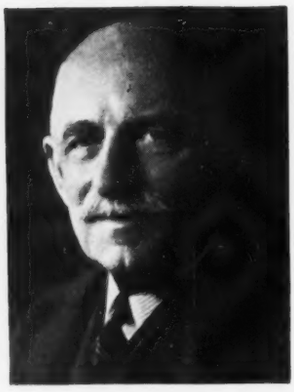
Howard Shireffs, formerly with American Woolen Co., has become associated with Metcalf Bros. & Co., New York. He is the son of the late John Shireffs, founder of Shireffs Worsted Co.

Victor H. Josephson, Jr., who has been with Southeastern Cottons, Inc., and its predecessor for 25 years, has been elected assistant secretary of that corporation.

Thomas W. Evans has been appointed head of the rayon men's wear department of Pacific Mills, New York.

Louis Wagner, sales manager of Standard Hosiery Mills, New York, has joined the organization of Century Affiliated Mills Sales Corp. as vice-president and as the first named mill will be sold under that roof, the selling firm's name has been changed to Standard-Century Affiliated Mills Sales Corp.

A. T. Cockefair, a veteran of 59 years service in the Worth St. dry goods trade, New York, has retired. For the last 38 years he was with



A. T. Cockefair

Riverside & Dan River Cotton Mills, for many of them sales agent of the mill. He started in the bleached goods business with Joseph T. Lowe in 1881. He was with A. D. Juilliard & Co. and Cone Export & Commission Co., in the latter succeeding Will Farish as selling agent when the latter resigned to form the firm of Farish-Stafford Co. Later Mr. Cockefair succeeded Noble Hamilton as selling agent of the Dan River Mills.

C. D. Walton, manager of Cumberland, Md., plant of Celanese Corp. of America, has been made general manager of yarn production for the company and will make his headquarters in New York. **H. E. Martin,** his assistant at Cumberland, has been made general manager in charge of chemical production, also with offices in New York. **F. T. Small,** chief engineer at Cumberland, succeeds as manager of that plant.

Albert J. Owler of Paul Whitin Mfg. Co., Southbridge, Mass., was re-elected president of the Southern New England Textile Club at the 30th annual meeting June 16. **Robert E. Steere,** of Curtis & Marble Co. was elected 1st vice-president, **John A. Skedgell,** of Grosvenordale Co., 2nd vice-president, and **Raymond C. Monroe** and **Frederick L. Chase, Jr.,** were elected joint secretary-treasurer.

William S. Propper is now branch manager of the St. Louis territory of Max Pollack & Co., Inc., succeeding **Thomas W. Mills,** who has been appointed general sales manager of the Great Lakes Thread Co., Detroit, Mich.

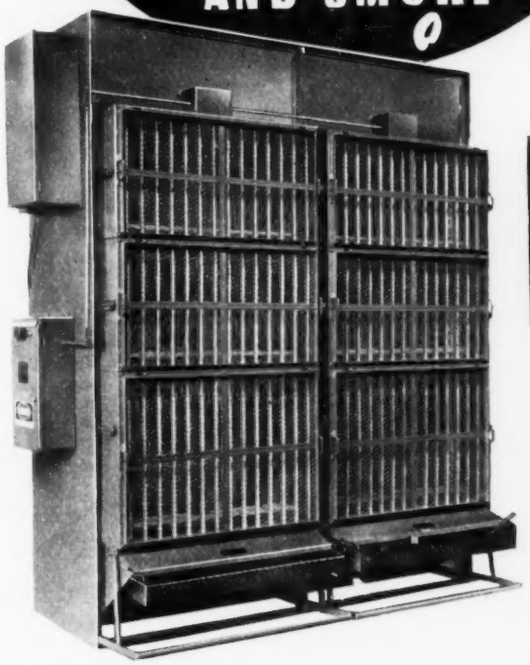
Robert O. Blenis, E. I. du Pont de Nemours & Co., was elected president of the Rayon Yarn Peddlers' Association of New England at the annual

PROTECT DRYING, BLEACHING AND FINISHING OPERATIONS with AMERICAN AIR FILTERS

● Dust, soot and smoke deposited on freshly dyed or bleached yarns or fabrics spoil their freshness and cause untold expense and trouble.

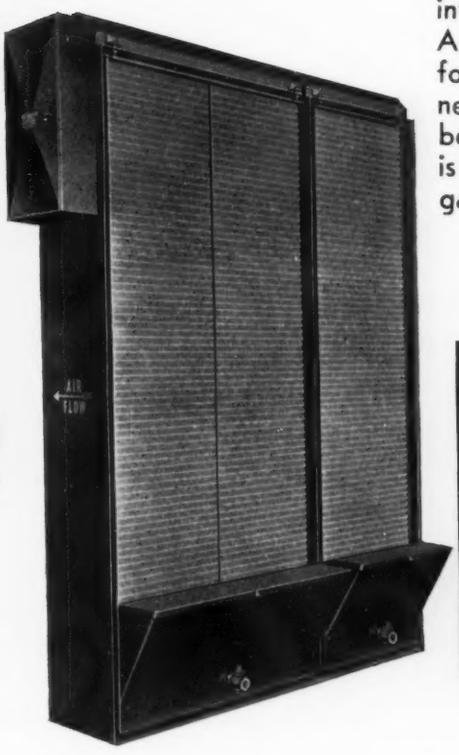
To minimize returns due to such spoilage many plants are installing American Air Filter equipment to guarantee dust free filtered air wherever operations demand absolute cleanliness.

AAF Engineers have made a study of Textile dust problems and can recommend the proper type of American Air Filters to meet your problem. Ask your air conditioning consultants to investigate some recent AAF installations or write for the address of our nearest Engineer. The benefit of his experience is available without obligation.



Electrio-Matic Air Cleaner

● Combines electric precipitation as an integral part of an automatic air filter for highest cleaning efficiency with smoke and fine soot particles.



Multi-Panel Automatic Air Filter

● For industrial air cleaning where large volumes of air are to be conditioned and normal cleaning efficiency is adequate.

Type P-L Filter

● For smaller installations. Dry type, easily maintenanced and approved by Underwriters' Laboratories. Eliminates practically all dust and some smoke from the air.

AMERICAN AIR FILTER CO., INC.

724 Central Ave. Incorporated **Louisville, Ky.**

AIR FILTRATION AAF DUST CONTROL

N-25 provides excellent detergency.. high sudsing action . . superior wetting-out and penetration.

N-25 is a synthetic condensation product which will produce no insoluble residues.

N-25 is proven outstanding for scouring, dyeing, soaping off, washing, boiling off, wetting out.

●

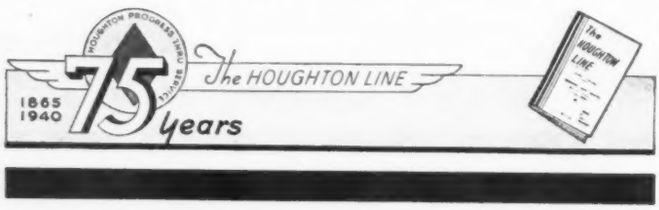
One of the greatest money-values ever offered to the industry, N-25 is endorsed by textile men everywhere for its extraordinary efficiency and economy. We would welcome the chance to prove the above facts in your plant. Send for the Houghton Man today!

●

E. F. HOUGHTON & CO.

3rd & Somerset Streets, Philadelphia, Pa.

1301-05 W. Morehead Street, Charlotte, N. C.



NEWS ABOUT MEN

outing and dinner of the association at Marion, Mass., June 16. **Harrison Biggi,** North American Rayon Co. is vice-president, and **Walter R. Barker,** of New Bedford Rayon Co., is secretary-treasurer.

George A. Sloan, former president of the Cotton-Textile Institute, has been appointed Commissioner of Commerce for New York City. He will be assisted by a large permanent advisory committee from business and industry. He will serve without salary and the committee will pay its own expenses. The primary objective of this effort is to promote business and business standards in the city.

Walter M. Higgins, Chattanooga, Tenn., yarn dealer, made the columns of many American newspapers recently by proving himself to be an early rooter for Wendell L. Willkie as a presidential candidate. Mr. Higgins wrote to Mr. Willkie on Nov. 28, 1939, urging him to run. "I predict," says Mr. Higgins, "that it will be easier for Willkie to win the election in November than it was for him to win the Republican nomination."

Mrs. A. R. Hoover, Jr., of Concord, N. C., has been elected president of the Hoover Hosiery Mills, succeeding W. W. Flowe, who died April 29.

Edward Menke, for the last 18 years with Menke Kaufmann Co., liquidated, and **Joseph Lieberman,** for the last five years with Doucet, have established a new fabric converting firm under the style Menke-Lieberman Co., with offices at 58 W. 40th St.

Gordon Pannill, of Martinsville, Va., has been elected president of the Pannill Knitting Co. of that city. He succeeds his brother, the late William L. Pannill, who died May 19. **John L. Gregory, Jr.,** was chosen executive vice-president; **E. A. Sale** and **S. S. Walker,** vice-presidents and **Charles M. Hart, Jr.,** secretary.

LIONEL P. ADAMS, who has been elected secretary of the General Arbitration Council of the Textile Industry, succeeding F. A. Colt. Mr. Adams was formerly associated with Richmond (Va.) Dry Goods Co. Mr. Adams was also recently elected secretary of the Textile Export Association of the United States.

CATHERINE CLEVELAND, for 11 years a consumer consultant for the Cotton-Textile Institute, has resigned to accept the position of chief of the WPA Sewing Projects in the United States and its Territories.

Cary Page, Princeton, N. J., was recently elected president of the Jackson Mills Co. succeeding his wife's uncle, the late Alfred M. Moore. Other officers were named as follows: **C. L. Chandler,** vice-president; **S. E. Anderson,** treasurer; and **Eugene M. Anderson,** secretary and assistant treasurer. Jackson Mills Co. has plants at Wellford and Anderson, S. C. and High Shoals, N. C.

O. Max Gardner, Shelby, N. C., president of Cleveland Cloth Mill, and **O. M. Mull,** formerly associated in the textile business with Mr. Gardner, have donated about 25 to 30 acres of the Cleveland Springs property near Shelby for a park and recreational center.

Wilbur C. Munnecke, associated with the manufacturing division of Marshall Field & Co., with plants in Spray, Draper and Leaksville, all in North Carolina, under the supervision of **H. McBain,** first vice-president, has been chosen a vice-president and has been given full responsibility of the manufacturing division.

W. M. Langley, associated with Abbeville (S.C.) Cotton Mills for 39 years, the last 20 of which he had served as superintendent, has resigned and been succeeded by **Robert Cushman.** A testimonial dinner was given in honor of Mr. Langley last month.

...THAT'S WHY WE'RE INSTALLING ANOTHER STAINLESS PACKAGE-DYER

"LAST year we installed three stainless steel package-dyeing machines. Since then, we've been careful to watch their performance and compare them with the old type equipment they replaced. And here's what we've noticed about the new machines:

1. ***They save time because clean-out time is practically eliminated.***

2. ***They require less dye-house labor to operate.***

3. ***They are much easier to load and unload, because their stainless construction permits simplified modern design.***

4. ***They increase the flow of liquor, producing more level dyeings.***

5. ***Their maintenance record has so far been perfect.***

"This year, because of increased business, we find we'll need a fourth package-dyer. And because of our experience, it's safe to bet that our new one will be identical with the other three—made of U·S·S Stainless Steel."

That's the way it has worked out in scores of successful dyeing and finishing plants. U·S·S Stainless Steel equipment, once installed, proves itself so valuable that other stainless units just naturally follow.

In dye jigs, acid agers, mixing tanks, dry cans, and piping, it pays to specify U·S·S Stainless Steel for all parts exposed to corrosive dyes and finishing agents. Write today for names of fabricators who can supply equipment fabricated of this strong, bright, easy-to-clean metal.

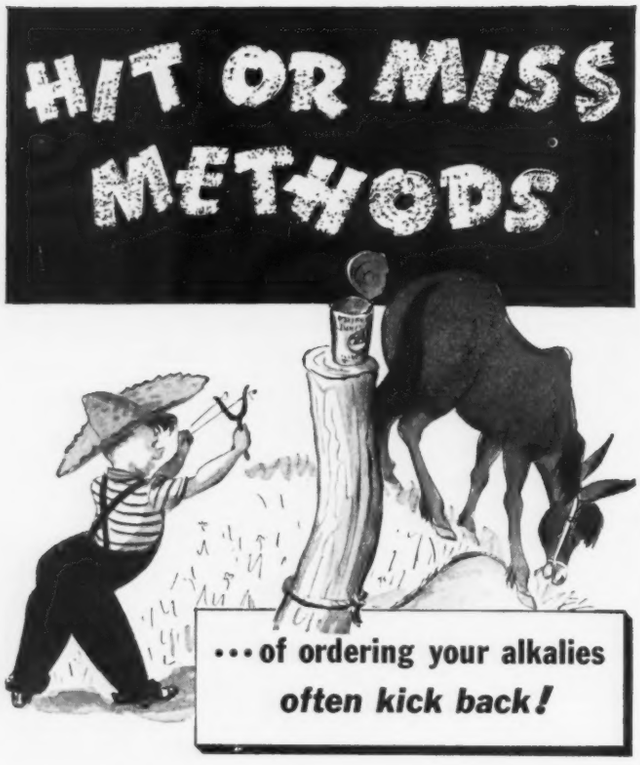
UNITED STATES STEEL

USS

U·S·S STAINLESS STEEL

AMERICAN STEEL & WIRE COMPANY, *Cleveland, Chicago and New York*
CARNEGIE-ILLINOIS STEEL CORPORATION, *Pittsburgh and Chicago*
COLUMBIA STEEL COMPANY, *San Francisco*
NATIONAL TUBE COMPANY, *Pittsburgh*

Scully Steel Products Company, Chicago, *Warehouse Distributors*
United States Steel Export Company, New York



• • • *and kick back by influencing either the quality or the cost of your textile products.*

When you use Solvay Alkalies, you can depend on their high quality . . . depend on their constant uniformity at all times. Here are a few other dependable points to consider before you place your order for alkalies:

THE RIGHT TYPE OF PRODUCT FOR THE JOB Solvay Alkalies are made in various forms to meet specific manufacturing requirements. The Solvay Products Book will give you complete information on types and strengths of Solvay products.

UNIFORM QUALITY . . . Only most modern and scientific manufacturing methods are used in making Solvay products—assuring uniform quality standards in Solvay products *every time you receive them.*

MODERN DISTRIBUTING FACILITIES . . . Three of America's largest alkali plants, located in important industrial centers and over 100 stock points assure prompt delivery and efficient routing of your orders for Solvay Alkalies.

YOUR PROBLEMS CONCERNING THE USE OF ALKALIES ARE SOLVAY'S . . . Solvay Technical and Engineering Service Division will help you get the most from your alkalies. Write to

SOLVAY SALES CORPORATION

Alkalies and Chemical Products Manufactured by The Solvay Process Company

40 Rector Street New York, N. Y.

BRANCH SALES OFFICES:
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Please send me a copy of the Solvay Products Book which will give me complete information on all Solvay Products.

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NEWS ABOUT MEN

Dr. Liston Pope, of Thomasville, N. C., who for two years has occupied the chair of Social Ethics at Yale University, has been awarded the John Addison Porter prize of $500 for his essay on "Churches and Mills in a Southern County." Dr. Pope spent the summers of 1938 and 1939 in Gaston County, N. C., where he gathered material for his thesis. It is understood that his work will be published this fall in book form.

E. R. Van Vliet, has completed 20 years service with Tubize Chatillon Corp., New York. In June, 1920, he joined the accounting and financial department of the old Tubize Artificial Silk Co. of America which had its headquarters in Philadelphia. He is now vice-president and treasurer of the corporation which resulted from the merger of the original firm with the American Chatillon Corp. some years ago.

J. L. Hodges of Montreal has been elected president of the Silk Association of Canada at the convention held in Toronto on June 25, succeeding A. E. Stewart.

Frederick B. Read, Jr., a student at Rhode Island School of Design, Providence, has been awarded the "Atlantic Rayon Scholarship" for the coming year. The scholarship was described in this magazine last month and provides that the recipient will work during a 12-month period in as many establishments connected with rayon, from pulp to retail counter, as possible.

J. R. Potts, formerly of Swift Mfg. Co., Columbus, Ga., is now overseer of carding and spinning at Avondale Mills, Sally B plant No. 2, Sylacauga, Ala., succeeding **L. A. Beckett,** resigned.

Frank Williams, formerly with the Alabama Mills, Dadeville, Ala., is now an assistant superintendent of the Alexander City (Ala.) plant of Avondale Mills.

Miss Gertrude G. Allen, lately with United Artists' Corp. in charge of publicity, who has joined the advertising and promotion department of Pacific Mills, New York.

Prof. H. J. Ball of Lowell Textile Institute, chairman of Committee D13, who has been elected vice-president of the American Society for Testing Materials.

I. M. Scott has been appointed vice-president of Lee I. Robinson Hosiery Mills, Inc., Philadelphia, Pa.

Robert H. Jordan, manager of the Memphis office of Gray-Shillinglaw & Co., investment bankers, on June 10 was elected president of the 1941 Memphis Cotton Carnival to be held sometime within the first ten days of May.

Cason J. Callaway, retired chairman of the Callaway Mills, LaGrange, Ga., has been elected chairman of the board of regents of the University System of Georgia.

Lonnie N. Mills, Statesville, N. C., at a special meeting of the board of directors of Paola Mills, June 13, was elected president to succeed his father, the late N. B. Mills; **Thomas Garnette Fawcett** was elected vice-president to succeed L. N. Mills, and **Thomas Noble Shelton** was elected a director to succeed his father, the late T. Garland Shelton. **A. L. Mills, Sr.,** continues as treasurer and general manager.

F. J. Beaty, of Charlotte, N. C., was made president of National Cotton Compress and Cotton Warehouse Association at meeting in New Orleans, succeeding **N. C. Blackburn** of Memphis.

Wesley Ames has been appointed manager of the Arkwright Finishing Co., Fall River, Mass., a subsidiary of Seneca Textile Corp., New York.

J. Sharp Queener, personnel supervisor of Old Hickory, Tenn., rayon division of E. I. du Pont de Nemours & Co., Inc., has been transferred to Memphis, Tenn., where he has

THE STRONG MAN OF LEADS...

GETS STRONGER UNDER STRESS

You have to be pretty husky to land the job of professional Strong Man. And then the work you do makes you even more husky.

Tellurium Lead is like that. A rugged lead to begin with, it toughens under stress. In other words, Tellurium Lead *work-hardens*. When rolled, hammered or stretched, it actually becomes tougher. Therefore:

1. **Turnover points and joints are less subject to cracking.**
2. **Where vibration is excessive, buckling and creeping are cut down to a minimum.**
3. **Where heat changes are frequent and rapid, there is less danger of fracture.**

Another point to remember! Tellurium Lead dulls the bite of sulphuric and other corrosive acids. This improved acid resistance holds good even at temperatures not far from the metal's melting point.

Tellurium Lead of our manufacture is time-tested St. Joe chemical lead, alloyed with a small quantity of tellurium. It gives the desirable advantages of this well-known chemical lead plus important new ones. Yet the cost is only a fraction of a cent more per pound than chemical lead. In sheets, pipe and coils. For further facts, write to our nearest branch.

NATIONAL LEAD COMPANY—New York, Baltimore, Buffalo, Chicago, Cleveland, Cincinnati, St. Louis; National-Boston Lead Co., Boston; John T. Lewis & Bros. Co., Philadelphia; National Lead & Oil Co., Pittsburgh; Georgia Lead Works, Atlanta; American Lead Corporation, Indianapolis; Master Metals, Inc., Cleveland; The Canada Metal Company, Ltd., Toronto, Montreal, Winnipeg and Vancouver.

TELLURIUM LEAD

ULTIMATE CONSUMERS
OF
UNDERWEAR
OUTERWEAR
and SWIM SUITS

like to find the following characteristics in the fabrics of the garments they buy:

ELASTICITY

—the ability to stretch freely and spring back into shape.

COMFORT

—no pinching, binding, sagging, or pulling.

LONG WEAR

—like shock absorbers, elastic fabrics absorb damaging strains.

HEAT INSULATION

—the human body is best protected from rapid temperature changes by lofty, unstrained yarns holding an adequate content of relatively still air.

ABSORBENCY

—perspiration is absorbed most rapidly and thoroughly by lofty, unstrained yarns.

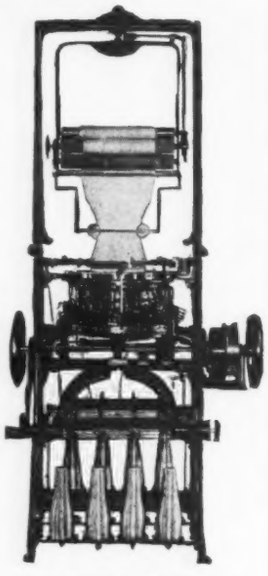
ALL THESE CHARACTERISTICS

—are best attained on the Cooper rib machine, as explained below.

IF YOU OPERATE COOPERS, YOU MAY TRUTHFULLY

TELL YOUR CUSTOMERS
THE KNIT-GOODS BUYERS

THAT, because your fabrics were knit on the famous COOPER SPRING-NEEDLE RIB MACHINE, they are *naturally* elastic. On the Cooper machine the yarn is *fed* to the needles in just the proper amount to form fine, elastic, well-rounded, unstrained loops. Therefore, since the needles do not have to pull the yarn to themselves, there is no danger of stretch reducing the yarn's natural elasticity or of one needle loop pulling yarn from another. Furthermore, on spring needles there are no needle parts to be operated by the yarn. It is no wonder, therefore, that Cooper rib fabrics—made on the *only* machines of their kind—are in a distinct class by themselves. Cooper fabrics present the highest attainment of the machine-knitting art.



PLEASE YOUR CUSTOMERS
OPERATE COOPERS!

CHARLES COOPER COMPANY
INCORPORATED
BENNINGTON VERMONT, U. S. A.

An oil painting of the late B. B. Comer, founder of Avondale Mills of Alabama and at one time governor of the State, was recently presented to the B. B. Comer Memorial School, at Sylacauga, by the artist, Frell Albright, a battery filler in the Sally B plant at Sylacauga. Mr. Albright, shown above, graduated from the Comer School this year.

been put in charge of the employment at the new powder plant which the Du Pont company will operate there for the Allied Purchasing Commission

Lt. Col. **F. Borden** of New Bedford, Mass., was elected president of the New Bedford Textile School Alumni Association at the annual clambake and reunion of the organization. Other officers elected were: **James L. Giblin,** vice-president; **Edward L. Murphy, Jr.,** treasurer; **Scott Whichter, Jr.,** secretary; **Thomas H. Gourley,** chairman of nominating committee.

Charles Leigh, Lexington, N. C., assistant general manager of Erlanger Cotton Mills and a major in the officers' reserve corps, was elected Chef de Gare at a meeting May 30 of the Davidson County unit of "Forty and Eight" at Lexington.

W. J. Cannon was recently appointed secretary of the Canadian Allied Textile Trades Association and the Dominion Wool Dealers Association. His office will be 217 Bay St., Toronto, Ont.

H. LeBarre Williams, for 45 years office manager of the Philadelphia office of Johnson & Faulkner, New York, retired July 1, and has been succeeded by **Thomas F. Bonta** formerly with Orinoko Mills.

R. L. Harris, secretary and treasurer of Roxboro (N.C.) Cotton Mills, has been nominated as the democratic lieutenant governor of North Carolina, which is equivalent to election.

Stanley Black resigned as manager of the Gayle unit of Springs Cotton Mills, Chester, S. C., effective July 1. His future plans have not been announced.

C. Callaway, Jr., treasurer of Crystal Springs Bleachery, Chickamauga, Ga., has been elected member of the board of directors of National Association of Credit Men.

August Fritze has resigned as manager of the San Francisco office of William L. Barrell Co., with which he had been associated for 30 years, and is succeeded by **Edwin Hoff,** his assistant.

Edward Brody and **Harry Greenberg** have joined the sales staff of Cohn-Hall-Marx Co., New York. Both were formerly with William Cohen Fabrics Co.

Irving Maziroff is now New York representative of the Cliffside Dyeing Corp. He was formerly with Seyer Dyeing & Finishing Co.

Howard H. Broer, for the last 14 years with Jacob & Schey, New York, has been appointed to take charge of the New York office of Crown Hosiery Mills, High Point, N. C.

William Gage Brady, vice-president of the National City Bank of New York, has been elected to the directorate of both the American Bemberg Corp. and North American Rayon Corp. **B. A. Thompkins,** vice-president of Bankers Trust Co., and **Henry P. Turnbull,** vice-president of Central Hanover Bank & Trust Co., have been similarly elected. On the Bemberg board they succeed **Dr. E. C. von Stauss, Dr. C. Herrmann** and **Wilhelm Langerbruch.** On the board of North American Rayon they succeed Messrs. Herrmann and von Stauss.

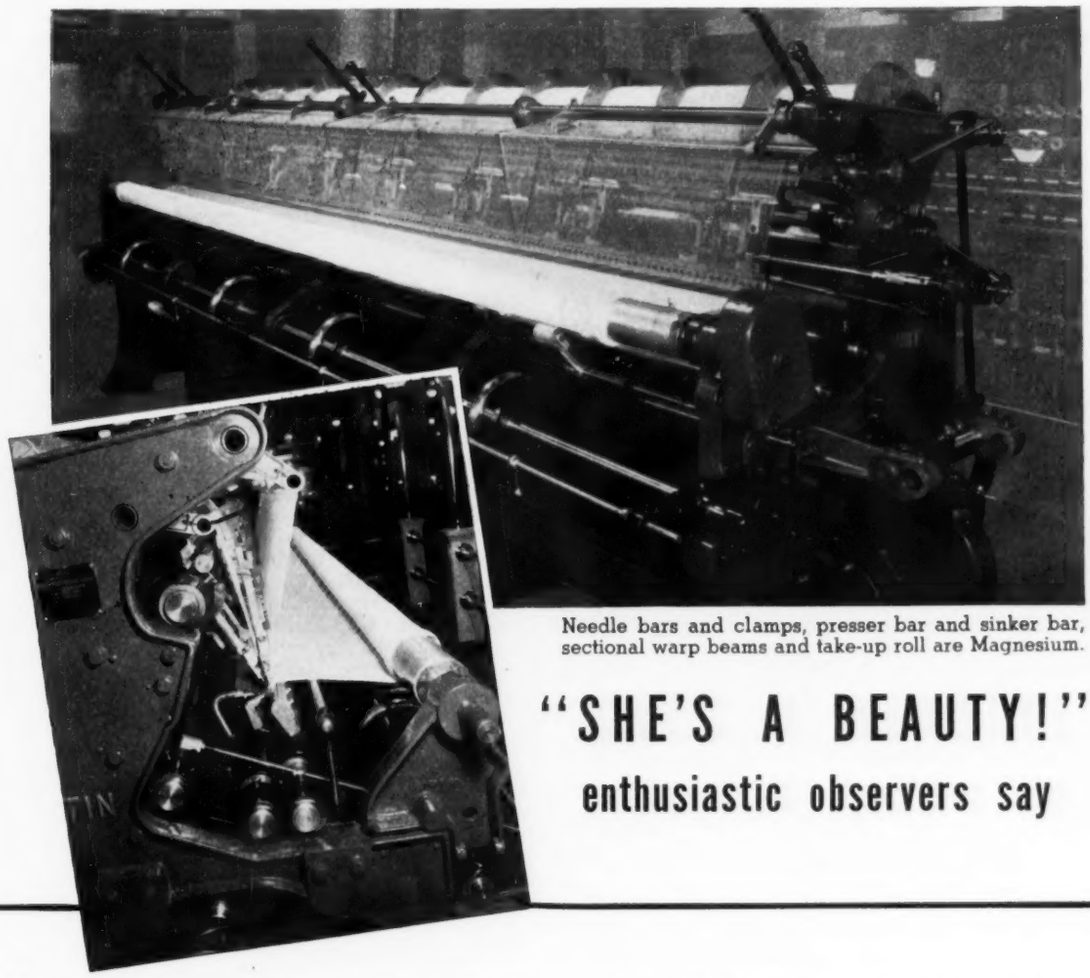
W. H. Beach has become superintendent of Kosciusko (Miss.) plant of J. W. Sanders Cotton Mills.

R. D. Hundley has been made superintendent of the weaving department of the Fieldale, Va., unit of Marshall Field & Co., succeeding **J. E. Perry,** who has been transferred to the Draper, N. C., unit of the same company.

MAZLO
Reg.U.S.Pat.Off.

MAGNESIUM ALLOYS

THE LAST WORD IN LIGHTNESS



Needle bars and clamps, presser bar and sinker bar, sectional warp beams and take-up roll are Magnesium.

"SHE'S A BEAUTY!"

enthusiastic observers say

MAZLO Magnesium Alloys are important contributors to the remarkably smooth performance of this Whitin Machine Works warp knitting machine. Needle bar and clamps, the presser and sinker bars are Magnesium extrusions, reducing to a minimum the weight of these high speed, reciprocating parts. The take-up roll and the sectional warp beams are likewise made of Magnesium.

What Whitin has done is typical of what many machine builders are doing with MAZLO Magnesium Alloys. Inertia of moving parts is greatly reduced, so that speeds can be increased. Quality of products is improved. Wear on machinery is less, so maintenance costs are lower.

MAZLO Magnesium Alloys are available in all commercial forms; sand castings, permanent mold and die castings, extruded bar and shapes, sheet, tubing and forgings. The range of physical and fabricating possibilities enables you to go *very* light most economically. *Sales Agent:* Aluminum Company of America, 1705 Gulf Bldg., Pittsburgh, Pennsylvania.

MAZLO

AMERICAN MAGNESIUM CORPORATION

The clues are easy to find but mighty expensive to have around. Just look into your dyeing and finishing for off-whites, dull colors, poor dye-matching and spoilage—those clues point to a water supply that's dipping into your net profits.

HUNGERFORD & TERRY WATER PURIFICATION SYSTEMS

remove every trace of hardness, of iron and other troublesome impurities, and provide you with 100% soft, clear, iron-free water at a cost of only a few cents per thousand gallons. . . Our equipment is not expensive and it carries a binding guarantee as to performance and life. . . Glad to make an honest survey of your water conditions without fee or obligation. . . Write us today.

HUNGERFORD & TERRY, INC.

WATER PURIFICATION PLANTS DESIGNED
INSTALLED *and* GUARANTEED

CLAYTON, NEW JERSEY

NEWS ABOUT MEN

John A. Shumate, superintendent of Leaksville Woolen Mills, Homestead, N. C., is the newly-elected president of Mount Holly (N.C.) Lions Club.

R. A. Field, Jr., formerly with Newnan (Ga.) Cotton Mills as general superintendent, has become manager of No. 6 unit of Riverside & Dan River Cotton Mills, Danville, Va., succeeding **D. K. Woodward.**

E. K. Willis, secretary and treasurer of Willis Hosiery Mills, Concord, N. C., has been chosen district governor of Rotary for the coming year.

P. S. Bailey, vice-president and a director of Clinton (S.C.) Cotton Mills, has been renominated for mayor of Clinton for the fourth term.

W. R. Peele, secretary and treasurer of Whitney Mills, and **Lawrence Cooper** have established the Cooper-Peele Co., Clayton, N. C., to buy and sell cotton.

Joe F. Chalmers, formerly superintendent of Greenwood (S.C.) Cotton Mills, has succeeded **Fred L. Still** as superintendent of Mathews Cotton Mills which are under the same management.

Burlington (N.C.) **Mills Corp.** has employed several recent graduates of the Textile School of N. C. State College. **T. C. Leaks, 3rd,** Rockingham, N. C., goes to the Bristol, Va., plant; **W. W. Riddick, Jr.,** Demopolis, Ala., will be employed in the Burlington plant; and **H. C. Woodhill, Jr.,** of Smithfield, Va. will be connected with the plant at Alta Vista, Va.

Sidney Adler, formerly associated with J. W. Sanders Cotton Mills, has been made superintendent of the finishing department of Pell City (Ala.) plant of Avondale Mills.

Claude Kay, formerly of Pelzer, S. C., has become overseer of weaving at Monarch Mills, Union, S. C.

E. L. Bolick, formerly of Salisbury, N. C., has become superintendent of Central (S.C.) Mills.

Edward Bullard has become second hand in weaving and slashing at Entwistle Mfg. Co., Rockingham, N. C.

Robert Twitty, Laurens, S. C., has been made superintendent of the Marion (N.C.) Mfg. Co. He succeeded **A. F. Hunt.**

Robert Cushman, Spindale, N. C., has been made superintendent of Abbeville (S.C.) Cotton Mills succeeding **W. M. Langley** who had been with the mill 39 years.

John Marshall, who has been office manager at Rock Hill (S.C.) Printing & Finishing Co., has been promoted to comptroller, succeeding the late John Martin. **Arthur Rountree,** assistant office manager, has been promoted to office manager, and **Hubert Whitton,** has been promoted to assistant office manager.

Sam T. Snoddy has become overseer of weaving and slashing at Erlanger Cotton Mills, Lexington, N. C., having formerly held a similar position with Entwistle Mfg. Co., Rockingham, N. C.

Richard J. Dalessandro of New Bedford, Mass., honor graduate at the New Bedford Textile School last month, has obtained a position as textile engineer with the Better Fabrics Testing Bureau, Inc., New York.

C. G. Warren has become overseer of carding at Southern Brighton Mills, Shannon, Ga.

J. E. Perry, Fieldale, Va., departmental superintendent of Marshall Field & Co., for 12 years, has been transferred to a unit of the company at Leaksville, N. C., as superintendent of the blanket weave room.

J. B. Williams has become superintendent of J. C. Sanders Cotton Mill, Mobile, Ala., having been transferred to his new position from a unit of the company at Meridian, Miss.

J. M. Mauney, Lincolnton, N. C., who was graduated from Textile School of North Carolina State College at Raleigh, N. C., this spring and received the medal given annually by N.A.C.M., has accepted a position with Washington Mills Co., Fries, Va.

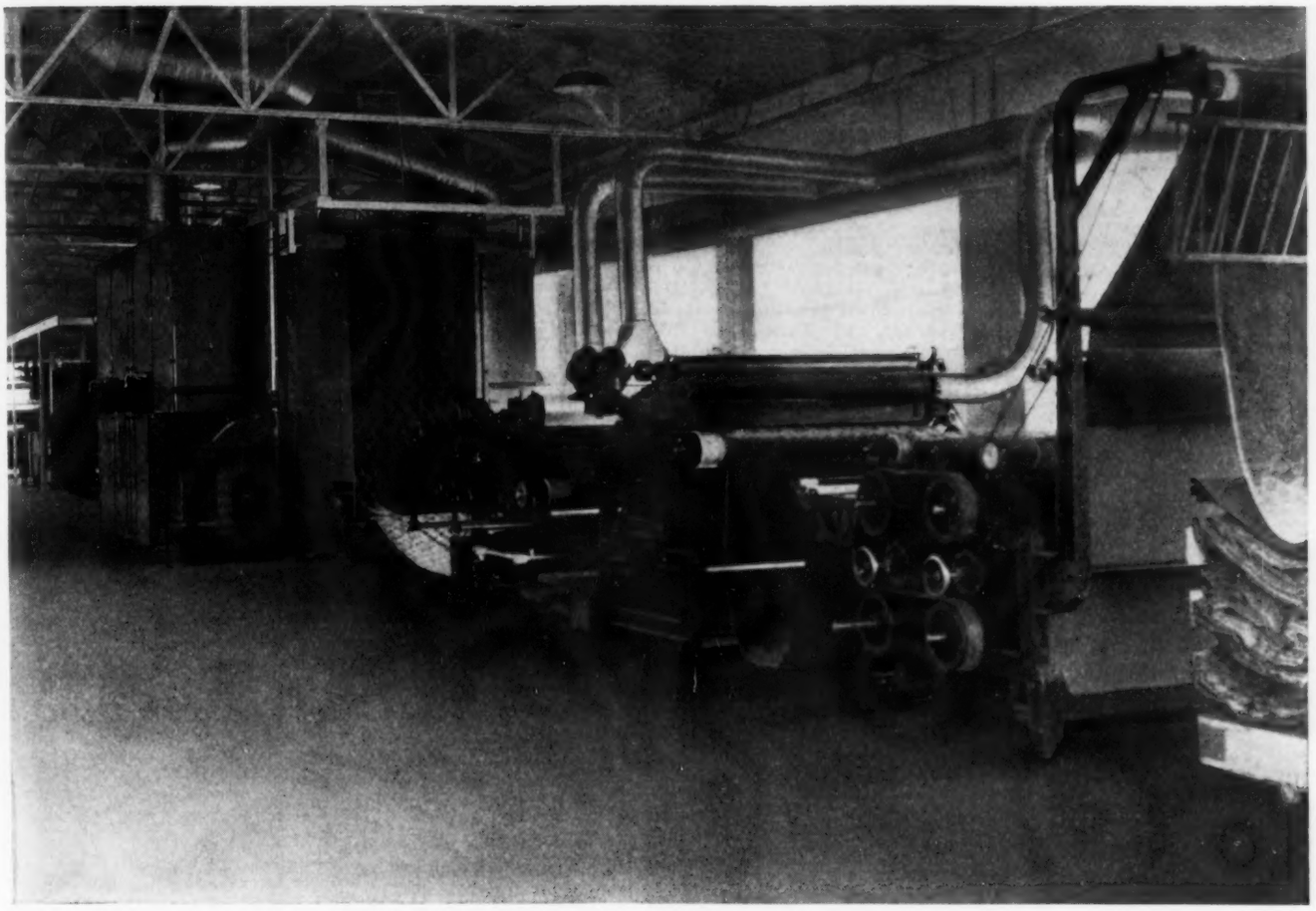
Jefferson H. Robbins has resigned as overseer of the spinning room No. 1, Gayle unit of Springs Cotton Mills, Chester, S. C. He has not announced his future plans.

W. G. Armstrong, formerly with Piedmont Cotton Mills, Egan, Ga., has become overseer of carding at Scottdale (Ga.) Mills.

George R. Elmore, formerly with Parkdale Mills, Gastonia, N. C., has become office manager of Peerless Spinning Corp., Gastonia, and the Balston Yarn Mills, Lincolnton, N. C.

Jefferson H. Robbins, formerly overseer of spinning at the Gayle unit of Springs Cotton Mills, Chester, S. C., has become overseer of spinning at Gaffney (S.C.) Mfg. Co.

A. S. Dawkins has been promoted to overseer of the weaving and slashing departments of Entwistle Mfg. Co., Rockingham, N. C.



THE NEWEST DEVELOPMENTS IN *continuous* WET AND DRY FINISHING OF PLUSH

As designed by Hunter engineers and executives of Eagle Dyeing and Finishing Company at Mt. Holly, New Jersey.

The illustration on this page indicates what can be accomplished when competent machinery engineers and progressive mill management set out to accomplish a new era in wet and dry finishing of plush and pile fabrics. In this range, with the exception of the piece dyeing operation, the finishing operation is completely continuous.

The installation is most compact and requires a minimum of labor.

Most important, cost concepts for each yard of finished fabric, all of which were figured before the machinery was put in place, are now being reached within a small fraction of a cent.

The services of Hunter engineers are likewise available to you at no cost for consultation and advice. Simply write

JAMES HUNTER MACHINE COMPANY

SINCE 1847 NORTH ADAMS, MASSACHUSETTS

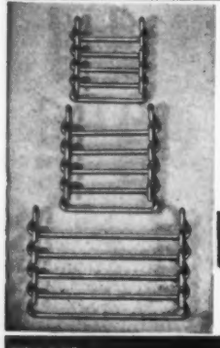
Southern Representatives
CAROLINA SPECIALTY COMPANY
Charlotte, North Carolina

Western Representative
MR. E. G. PAULES
343 Bendix Building
Los Angeles, California

Shamrock *Canvas* Baskets, Hampers, Trucks are *Tough Lightweights*

Old-fashioned, worn-out conveying equipment has no place in modern, efficient plants. Use Shamrocks—get the most for your money! Remember, they have a battleship resistance against wear. Write MEESE, INC., *Madison, Ind.* Today!

OPPORTUNITIES TO IMPROVE YOUR PRODUCT AND SAVE YOUR MONEY . . .



NARROWING CHAIN

Accurately made from high grade material—built to last and to hold its shape.

SINKER HEAD SLOT CUTTERS

The ideal tool for cleaning out slots in sinker and divider heads. Made in all gauges. Each one comes in a leather carrying case.

Send for bulletin giving full details on these and other products.

THE SINKER WITH THE HARDENED THROAT (PATENTED) AND THE HARD BUTT

GIVES YOU..

LESS BREAKAGE
LONGER SERVICE
LOWER OPERATING COST
LONGER UNIFORMITY OF PRODUCT

THOMAS & SKINNER
STEEL PRODUCTS COMPANY
1119 East 23rd Street Indianapolis, Indiana

NEWS ABOUT MEN

C. W. Cashion has been appointed superintendent of Flint Mfg. Co., Nos. 1 and 2 units, Gastonia, N. C., having been promoted to this position from that of overseer of spinning and twisting at the No. 1 unit.

E. W. Sumner has resigned as overseer of the cloth room of Jennings Mill, Lumberton, N. C., and has accepted a similar position with Saxon Mills, Spartanburg, S. C.

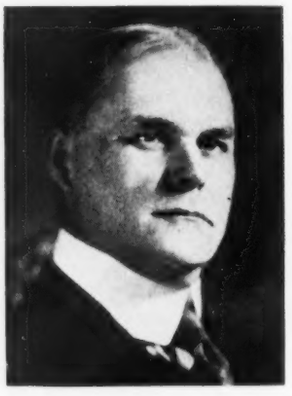
James C. Stubbs, for 62 years associated with Pee Dee Mfg. Co., Rockingham, N. C., and for many years a departmental superintendent, has retired.

Harvey G. Pontz, recently of Pawtucket, R. I., has been placed in charge of operations of the new Draper looms at William Skinner & Sons, Holyoke, Mass. He was with the Newmarket Mills at Lowell for many years.

Obituary

Stuart Warren Cramer, 72, long prominent as a textile manufacturer, died at his home in Cramerton, N. C., July 3. He had resigned less than a year ago as president of the Cramerton (N. C.) Mills, which he founded. Mr. Cramer began his brilliant career about 1890 after graduating from the Naval Academy at Annapolis and studying at Columbia University.

From 1895 to 1918 he was a mill engineer and contractor and during that period designed more than 150 cotton mills in the South. He devised the four-frame spinning drive for transmission of electrical power in cotton mills and invented the Cramer humidification system. He was president of the A. C. M. A. in 1913-14. He served as first vice-president of the Cotton-Textile Institute, and was for many terms treasurer of the Textile Foundation. He originated and encouraged considerable research work and was himself holder of 60 patents. He served on numerous trade and Governmental committees and commissions.



Stuart W. Cramer

John Laben Lineberger, Gaston County, N. C. textile pioneer, died June 19 at his home in Plum Tree, N. C. Before retiring from the textile business Mr. Lineberger was connected with the Spencer Mt. Mills, Gaston County, and had textile interests in Lincoln County, N. C.

Jacob Shuford Geitner, 39, vice-president of Ivey Weavers, Hickory, N. C., died recently. He had been associated with that mill since 1927.

Alvin E. Shaw, 77, a former partner in the woolen firm of Ricketts & Shaw, Monson, Mass., and at one time superintendent of Bethel Mills, Ashaway, R. I., and Campbell Mills, Potter Hill, R. I., died at Nashua, N. H., June 6. He retired about 10 years ago.

Ernest J. Stringham, 65, director of sheet and pillow case sales for Taylor, Clapp & Beall, New York, died June 7.

Harold C. Mountain, 51, vice-president, treasurer and general manager of the Dumbarton Woolen Mills and manager of George Park Mfg. Co., Dexter, Maine, died June 8.

Mrs. P. W. Bamford, 74, president of Reliance Piece Dye Works, Paterson, N. J., died recently. She was the widow of Walter Bamford, one of the pioneer silk manufacturers of the Paterson district, who died in 1926.

John J. Clark, 74, superintendent of the West Pittston Silk Throwing Co., Pittston, Pa., and a pioneer in the silk industry of Northeastern Pennsylvania, died early last month.

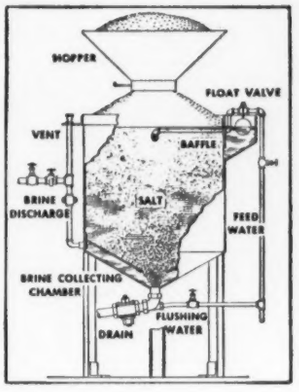
Thomas Bradbury, 79, general superintendent of Wamsutta Mills, New Bedford, Mass., and associated with the mills for nearly 40 years, died early last month. He was a native of Oldham, England.

George E. Hayward, 71, manager and a director of the Marietta (Ohio) Dyestuffs Co., died recently.

Charles A. Muggleton, 69, treasurer of Rock River Cotton Co., Janesville, Wis., with which he had been associated nearly 50 years, died recently.

Lixate Brine makes 4 savings

with more accurate control of color and reduction of dyeing streaks and stains



THREE new developments in the textile industry have grown to maturity in the past ten years. They are: the rise of synthetic fabrics; growing use of sulfonated oils; and the use of Lixate Brine for dye bath exhaustion. In every one of these developments, economy was the primary reason for their adoption in the industry—but with Lixate Brine there are other major advantages.

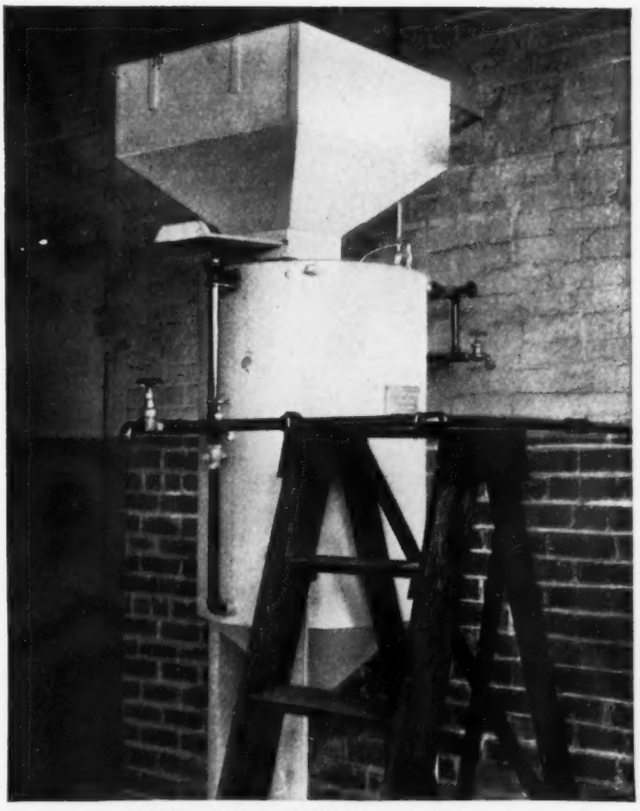
For instance, when the dye bath is exhausted with Lixate Brine, the exhausting agent is in liquid form. It is rapidly and thoroughly distributed throughout the entire vat—whether of the closed or open type. This does give a better control of color. It is a control for even dyeing or more level dyeing. It avoids the concentration of solids here and there on the fabric, to make streaks and stains.

With this better quality, there are at least 4 major savings:

1. Lower labor cost for handling salt.
2. No labor or power cost for mixing salt in water or in dye bath solutions.
3. Lower cost for distribution throughout the plant.
4. Saving in salt—users estimate that they save 10% to 20% of salt formerly required.

This diagram shows why these savings are possible. The recommended grade of International's Retsof, Detroit or Avery brands of Rock Salt is stored in the hopper, and flows down by gravity. Water enters through a spray nozzle at the top, dissolves the salt without agitation, and becomes fully saturated brine. This brine is self filtered and rises, crystal clear, within a collecting chamber to a discharge pipe, and flows to a storage tank.

Lixate Brine is being used more and more throughout the textile industry, for dyeing all fabrics—silk, wool, cotton, rayon and unions. Write for a copy of The Lixate Book, and find out how widespread the use of Lixate Brine really is. Then determine to install this quality-improving, money-saving process in your own mill or plant.



LAWLER HOSIERY MILLS, Carrollton, Ga.

How clean, how simple The Lixate Process makes dyehouse operations is shown in the picture above of the installation in this progressive mill. The Lixator can be installed at any convenient place, for Lixate Brine can be piped to every point of use—through the walls, floors, ceiling. Its cleanliness and convenience add to its other major economies.

★ ★ ★

● SALT FOR EVERY PURPOSE

The Lixate Process For Making Brine is a development of International Salt Company, Incorporated. The Research Department of International Salt Company, Incorporated, has made many contributions to economy and to quality improvement by the proper use of salt and salt brine. International produces every type and grade of salt for every industrial use—granulated (vacuum evaporated); flake salt (grainer evaporated) and Rock Salt.

● WRITE FOR THIS BOOK

Find out more about the money-saving process, now so widely used in the textile industry. A copy of The Lixate Book will be sent on request, describing The Lixate Process in detail, and picturing many installations. Write for this book.

The **LIXATE** *Process*
REG. U. S. PAT. OFF.
for making brine

INTERNATIONAL SALT COMPANY, Inc., SCRANTON, PA.

SALES OFFICES: *New York, N. Y. • Buffalo, N. Y. • Philadelphia, Pa. • Boston, Mass. • Baltimore, Md. • Pittsburgh, Pa. • Newark, N. J. • Richmond, Va. New Orleans, La. • Cincinnati, O. • St. Louis, Mo.*

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ANNOUNCING

. . . . A NEW, CENTRALIZED SOURCE OF SUPPLY FOR USERS OF NARROW FABRICS

The National Tape and Webbing Distributors, Incorporated, has been formed to give both users and manufacturers the advantages resulting from a unified source of supply in the narrow fabrics industry. Eugene J. Ronan, formerly president of the J. Sullivan & Sons Mfg. Company has been appointed president and general manager.

NATIONAL TAPE & WEBBING DISTRIBUTORS, INC.

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G. W. LEWIN Curved WEAVERS' COMBS

Patent No. 172864

Highly polished brass backs. Hardened steel pins with hardened steel pick-out point of special steel which will not bend.

Style B80—Curved 80 fine pins
Style B60—Curved 60 coarse pins
Style B40—Curved 40 coarse pins
Style C80—Straight 80 fine pins
Style C60—Straight 60 coarse pins

Price $2.00 Dozen—$20.00 Gross.

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STANDARD MILL SUPPLY COMPANY

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Southern Standard Mill Supply Co., Charlotte, N. C.

ALLEN HOLLOW Hex Socket SCREWS FOR TEXTILE MACHINERY

Heads set flush with machine surfaces; no sharp edges to catch fabrics; no slots to burr and pull threads. Strongest, handiest screws to use; hold tight under vibration. Ask for *free samples* — indicate types and sizes wanted.

ALLEN MFG. CO., Hartford, Ct.

NEWS ABOUT MEN

John E. Shaw, 51, superintendent of Lawrence Mfg. Co., Lowell, Mass., for the last 21 years, died recently.

Charles A. Hardy, founder and head of the wool company bearing his name at Boston, Mass., died at his home in Wellesley, Mass., June 13. He was purchasing agent of the American Woolen Co. for 25 years. He organized the Hardy company three years ago.

Alfred M. Moore, 73, president and treasurer of Jackson Textile Mills died at his home in Spartanburg, S. C. The company has plants at Wellford, Iva and High Shoals, N. C.

Thomas C. Stone, vice-president and general manager of the Cluett Peabody & Co. of Canada, died at Kitchener, Ont. He was associated with the Cluett firm for 40 years.

William Wallace Buffum, treasurer and director of Chemical Foundation, died June 22.

Louis E. Murphy, 66, formerly president and chairman of the board of E. F. Houghton & Co., Philadelphia, died June 26. He had been with the Houghton organization for 52 years. He resigned as chairman of the board in 1936, but remained a director to the time of his death.

Willie Law, 73, chairman of the board of Magee Carpet Co., Bloomsburg, Pa., died last month. He had been associated with Magee for 40 years, retiring from the presidency last February.

Joel Towers Rice, 91, cofounder and a director of Belton Mills, Greenville, S. C., died June 25. He served a number of terms as mayor of Belton.

Charles B. Maynard, 75, formerly purchasing agent of Royal Worcester Corset Co., Worcester, Mass., died in that city June 19. He was the organizer of the Maynard Corset Co.

Frank Hartley, Sr., 83, treasurer of Amalgamated Color & Chemical Co., Boston, Mass., died June 8. He was at one time associated with Southbridge (Mass.) Finishing Co.

William G. Waldron, 73, a veteran in the knit goods industry at Amsterdam, N. Y., died there early last month. Many years ago he was with the Greene Knitting Co. and he later founded the Amsterdam Knitting Co.

John J. Thomson, 59, secretary-treasurer of E. & S. Currie, Ltd., Toronto, Ontario, died early in June. He had been with the firm for 41 years.

John T. Swift, 62, for many years prominent in textile circles in southern Massachusetts, died in Fall River, Mass., June 17. He was a director of Luther Mfg. Co.

Elmer E. Hogle, who was superintendent of the wool sorting division of the old Amoskeag Mfg. Co. in Manchester, N. H., died recently in that city.

M. Clifton Robinson, 40, operator of Bamberg (S. C.) Mattress Factory for many years, died June 14.

Albert Edgar Woltz, 64, for many years a vice-president of Alba Mfg. Co., Mariposa, N. C., and a director of Globe Yarn Mill, Mount Holly, N. C., died June 1, at Raleigh, N. C., where he was senior auditor of the North Carolina revenue department.

Thomas F. Wrenn, 79, owner and operator of Wrenn Hosiery Co., Thomasville, N. C., died May 31 in New York.

J. M. Scholler, secretary of Scholler Bros., Philadelphia, Pa., died June 19.

Luther S. Weitzel, 36, superintendent of Willard Hosiery Mills, Dublin, Pa., died June 9.

Hugh K. Wilkey, 53, purchasing agent for Signal Knitting Mills, Chattanooga, Tenn., died June 14.

Henry Chapin Haile, 71, formerly treasurer of Haile & Frost Mfg. Co., wool manufacturers, Hinsdale, N. H., died May 26 in Springfield, Mass.

W. G. Smitherman, 51, Troy, N. C., a large stockowner in Smitherman Cotton Mills, died June 13 at his home in Troy.

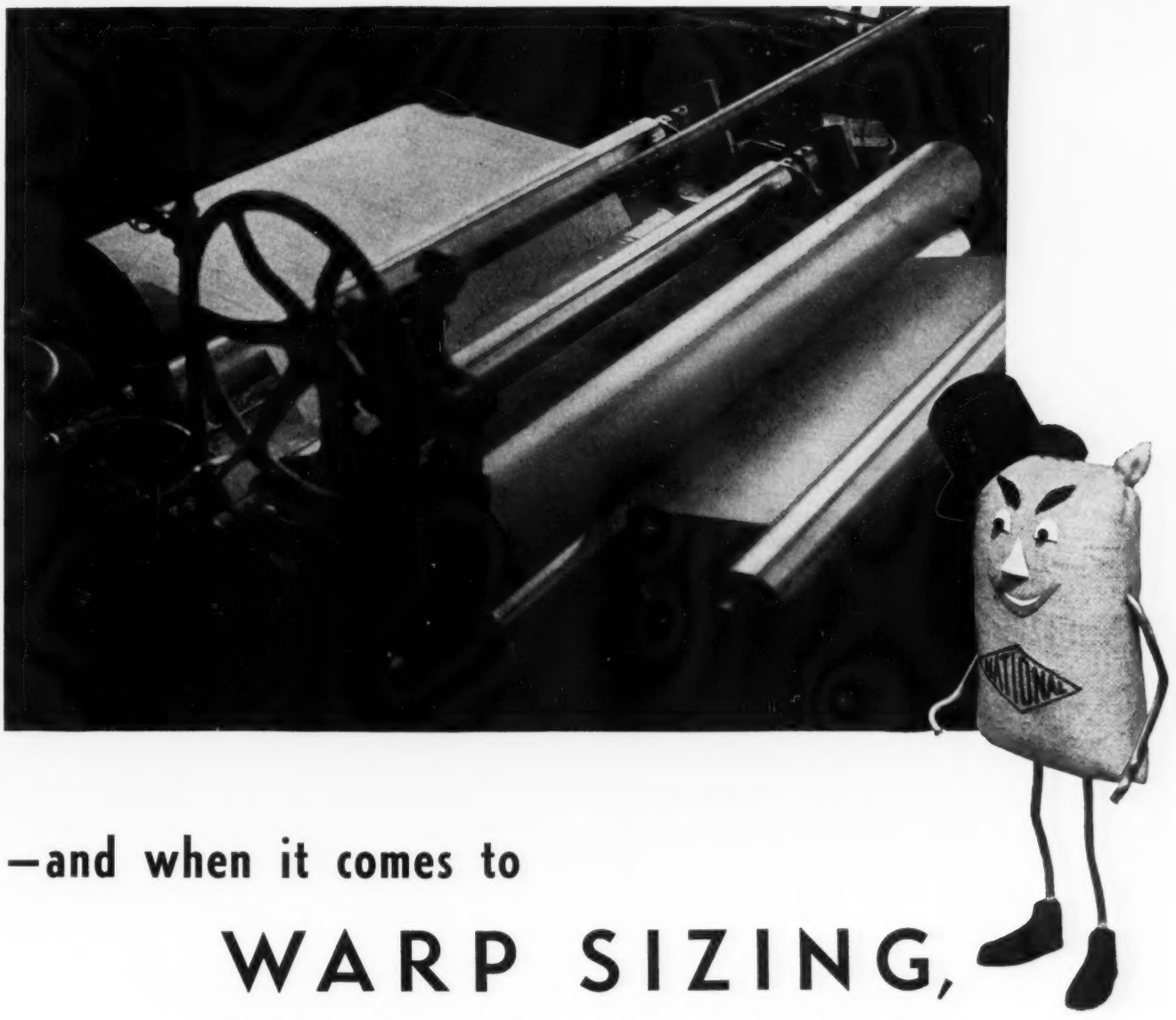
Hugh J. Kelley, formerly superintendent of B. B. & R. Knight Mills, Riverpoint, R. I., and at one time connected with Nyanza Mills, Woonsocket, R. I., and New England Yarn Co.'s Globe Mills at Fall River, Mass., died at his home in Fall River on June 9.

Rodman A. Nichols, 56, for many years a member of the Boston cotton brokerage firm of Nichols & Read, died at his home in Salem, Mass., May 27.

John P. Simpson, 75, secretary of the Bacon Hosiery Co., Loudon, Tenn., died there recently.

John T. Balthasar, 44, assistant to the president of Southern Textile Machinery Co., Paducah, Ky., died June 8. He had been with the company for 25 years.

Edward T. Bischoff, 30, president of Ernst Bischoff Co., Inc., Ivoryton, Conn., died May 25. He was a graduate of Philadelphia Textile School.



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National can give you real help!

WHETHER it's special sizes for Spun Rayon and Filament Rayon, or pearl and thin-boiling starches for Cottons, we can not only furnish the right products but show you how to use them to best advantage.

Our Textile Chemists can help you obtain the results you want. Their services are at your disposal.

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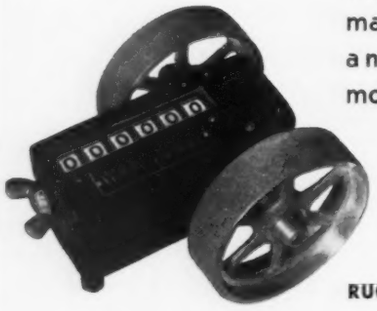
V with the WAK double wheel yardage counter. Used extensively by leading mills on inspection tables, slashers, re-rolling machines, etc. Yardage counters made in both reset and non-reset models.



LENGTH: 6¾"
HEIGHT: 3⅞"
WIDTH: 5⅛"
WEIGHT: 3½ lb.

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TEXTILE MILL NEWS

Cotton Mill News

Aragon-Baldwin Cotton Mills, Rock Hill, S. C., will erect one-story addition, 57x130 ft., for expansion. Company has purchased about 400 Draper looms and auxiliary equipment, to replace certain present equipment, and plans early installation.

Avondale Mills, Sylacauga, Ala., is rebuilding its display building on the Birmingham highway. The building, known as the Cotton Bowl, was destroyed by fire last year. At their Eva Jane plant an Amco humidifying system has been installed; also new elevators and hoists. In the finishing department a new, large Sanforizing unit is being installed.

Balston Yarn Mills, Lincolnton, N. C., is the name of the new company incorporated to take over the equipment installed in the building which formerly housed the Wampum Cotton Mills. W. L. Balthis of Gastonia, N. C., is president and treasurer.

Banning (Ga.) Mills, Inc., are in hands of Oscar W. Roberts, Jr., receiver.

Bibb Mfg. Co., Macon, Ga., has announced an improvement program which will involve the expenditure of $2,250,000 within the next six or seven months. The program includes additions to the company's plant and equipment.

Callaway Mills, LaGrange, Ga., have installed 215 towel looms in the Elm City unit.

Crown Cotton Mills, Dalton, Ga., plan one-story addition. Cost reported close to $35,000, with equipment. Robert & Co., Atlanta, Ga., are architects and engineers.

Drayton Mills, Spartanburg, S. C., has completed modernizing its weaving department. The improvements include air-conditioning, termite-proofing, and individual lighting for each loom.

Entwistle Mfg. Co., Rockingham, N. C., has constructed 10 new dwellings for operatives at a cost of $18,000.

Erwin Cotton Mills, West Durham, N. C., have awarded contract to American Engineering Co., Philadelphia, Pa., for two stokers for power house, where modernization and improvements are being made. J. E. Sirrine Co. are the engineers.

Gastonia (N.C.) Combed Yarn Corp. has installed additional spinning frames to bring their total spindles up to 39,420.

Industrial Cotton Mills, Rock Hill, S. C., have awarded contract to Tompkins-Johnston Co., Charlotte, N. C., for installation of sprinkler system in new three-story 79x81 ft. addition, for which Daniel Construction Co., Anderson, S. C., has general contract. J. E. Sirrine & Co., Greenville, S. C., are engineers.

Laurence Tape Co., Lancaster, Pa., is now located in new quarters at 401 Fairview Ave.

Maplewood Specialty Mills, Fall River, Mass., makers of mops, clothesline, rope and yarn, lost two mill units by fire on June 7, with an estimated loss of $300,000. The plant was formerly known as the Estes Mills.

Mills Mill, No. 2, Woodruff, S. C., has installed new looms and auxiliary equipment at a cost of about $20,000. The company has also completed the construction of a warehouse.

Oconee Mills, Westminster, S. C., is beginning an expansion program. Additional weaving equipment is expected to be installed. The mill is a unit of the Beacon Mfg. Co., Swannanoa, N. C.

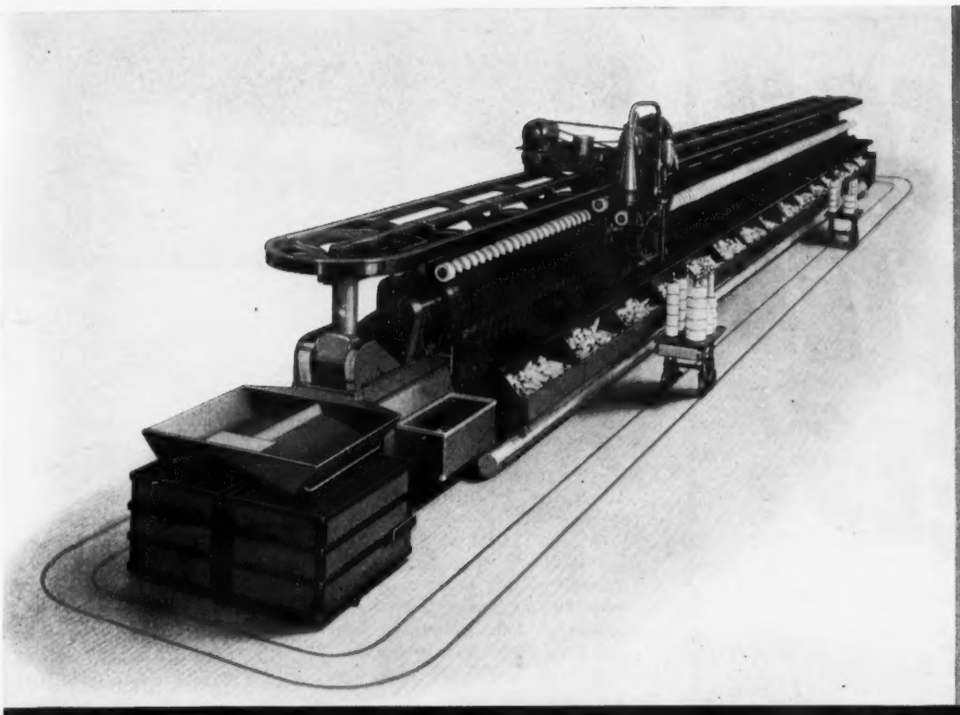
Parkdale Mills, Inc., Gastonia, N. C., has completed addition for modern finishing unit and storage warehouse, providing 12,500 sq. ft. additional floor space.

Robinson Yarn Mill, Dallas, N. C., has completed an addition for the yarn conditioning department.

Dominion Textile Co., Ltd., Magog, Que., has begun work on one-story and basement addition to local mill, 50 x 59 ft., for which general contract recently was awarded to Atlas Construction Co., Ltd., Montreal, Que. Cost estimated about $30,000 with equipment. Company will make knitting yarn at its St. Ann's mill in Montreal.

Samarkand Rugs, Inc., Rock Hill, S. C., is being established in the building formerly Wymojo Yarn Mills, a unit of Textiles, Inc. The product will be all cotton rugs with a small amount of jute for backing.

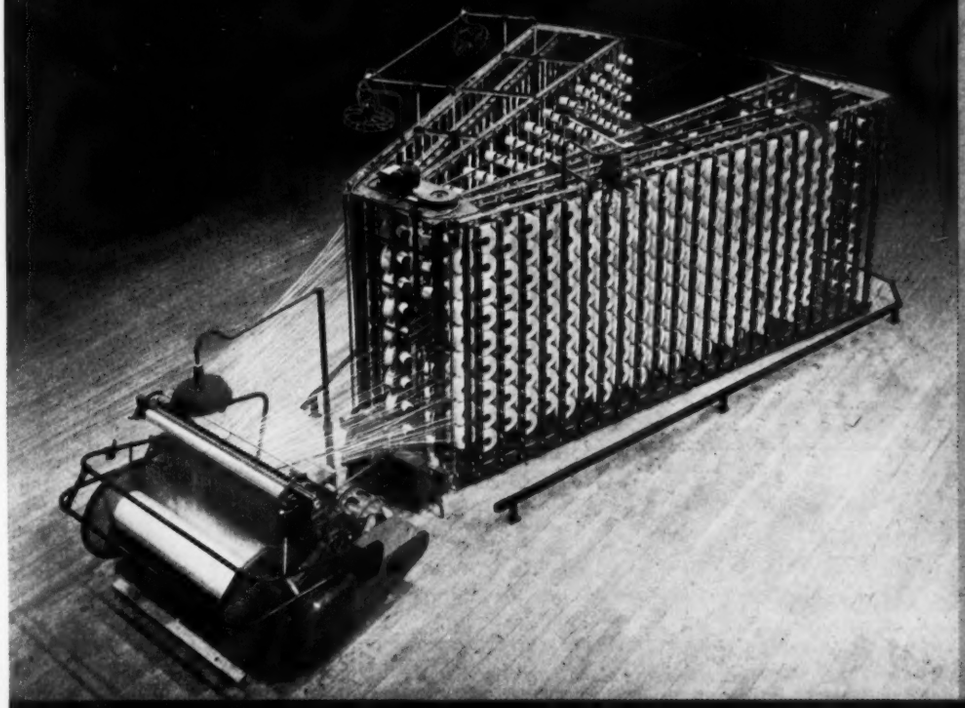
Sellers Mfg. Co. No. 2, Cedar Falls, N. C., formerly Sapona Mills, recently purchased by Sellers Mfg. Co., Saxapahaw, N. C., has changed some of the machinery to manufacture two-ply combed and carded yarn.



AUTOMATIC SPOOLER

EASILY ADAPTED TO **SPUN RAYON**

...AS DEMONSTRATED BY ACTUAL USE IN MANY LEADING COTTON MILLS NOW RUNNING SPUN RAYON ON THIS EQUIPMENT



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Large Stocks... Uniform High Quality... Immediate Shipment... Principal products include—Alloy Steels, Tool Steels, Stainless Steel, Hot Rolled Bars, Hoops and Bands, Beams and Heavy Structurals, Channels, Angles, Tees and Zees, Plates, Sheets, Cold Finished Shafting and Screw Stock, Strip Steel, Flat Wire, Boiler Tubes and Fittings, Mechanical Tubing, Rivets, Bolts, Nuts, Washers, etc. Write for Stock List. Joseph T. Ryerson & Son, Inc. Plants at: Chicago, Milwaukee, St. Louis, Cincinnati, Detroit, Cleveland, Buffalo, Boston, Philadelphia, Jersey City.

PNEUMATIC
Counter-Balanced
THREAD TENSION

A Guaranteed uniform tension, universal in application.

Self-cleaning—no oiling. Output increased. Quality improved.

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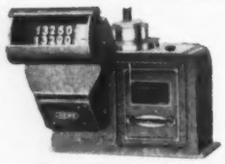
ROBERT REINER, INC. **Weehawken, N. J.**

Builders of creels and warping equipment

Dry Weights!



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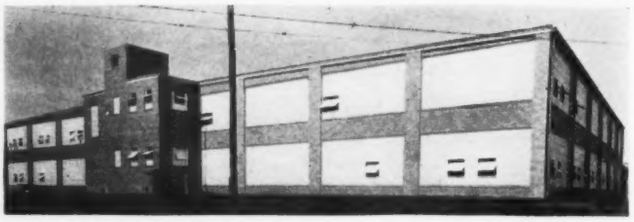

COMMANDER MILLS, Sand Springs, Okla., is completing a $500,000 construction program. Work on the 163 x 236 ft. addition, shown above, has been finished. J. E. Sirrine & Co., Greenville, S. C., are the engineers. The addition will increase the output of the mills about 50% when ready for use. It marks the latest major industrial expansion in Oklahoma. H. B. Dowell is president and manager of the mill; output is sold through Hesslein & Co., New York.

Springs Cotton Mills, Springstein plant, Chester, S. C., are installing 40 cards. An addition has been constructed at this plant in which spinning machinery has been installed. The company has added another story to the No. 5 mill at Lancaster and the spinning department has been expanded. About 74 new dwellings for operatives will be built at Fort Mill, and 50 have been completed at Chester.

Startex Mill, Tucapau, S. C., is spending $40,000 on an improvement program in the mill village, and to the mill buildings.

Threads, Inc., Gastonia, N. C., has recently completed a one-story addition for finishing department, with section for storage and distribution.

Taber Mills Corp., New Bedford, Mass., was sold last month to Albert A. List, of Fall River, Mass., at the reported price of $100,000.

Trion (Ga.) **Co.,** plans modernizing of its power plant. Contract has been awarded for automatic coal handling equipment and a coal silo to the Fairfield Engineering Co. of Marion, Ohio.

West Point Mfg. Co., Langdale, Ala., is rearranging its old spinning machinery, installing 6,000 new spindles, and the opening room is being remodeled and the company is installing Lummus blending gyrators.

Wiscassett Mills Co., Albemarle, N. C., are having 88 warp-spinning frames converted into Saco-Lowell long-draft.

York (Pa.) **Narrow Fabrics Co.** has acquired additional property in that city and plans erection of a modern addition to its plant.

Wool Mill News

Agawam (Mass.) **Woolen Mill Co.** has plans for reopening. M. T. Magee of West Springfield has been elected president, Alfred Peever of New York, vice-president and handler of sales; F. A. Worthington of Agawam, treasurer, and C. L. Woodward of West Springfield, secretary. Women's wear will be made.

Blackinton Co., North Adams, Mass., was sold at public auction on the premises June 18 through mortgage foreclosure proceedings instituted by the Reconstruction Finance Corp.

Burlington (Wis.) **Mills, Inc.,** have asked bids on two-story addition, 40 x 100 ft., for warehouse service. Cost estimated close to $35,000, with equipment. H. W. Tullgren, Milwaukee, Wis., is architect.

Chatham Mfg. Co., Elkin, N. C., has purchased from Gaston County Dyeing Machinery Co. of Stanley, N. C., a battery of full automatic, all stainless-steel beam and package dyeing machines, extracting and drying equipment.

F. M. Day Co., Wales, Mass., was sold in liquidation at auction on June 25.

Dontigny Wool Mills, Arnprior, Ont., inactive for the last few years, have been sold to W. N. Thompson and A. D. Klaman and will shortly resume operations under the name of **Arnprior Wool Stocks.**

Farr Alpaca Co., Holyoke, Mass., through Treasurer Donald Green, has distributed $326,0000, the first dividend payment from the liquidation of the company's assets. This represents $3.50 a share to stockholders. There is a total sum of $490,000 to be disbursed before the company has completed all its financial obligations. Former employees are negotiating for purchase of A and C weave sheds of the Holyoke Industrial Properties, Inc., formerly owned by Farr Alpaca.

Fernhill, Ltd., Valleyfield, Que., fancy worsteds, recently moved to Joliette, Que., where they are preparing to operate 24 C. & K. worsted looms.

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National has immediately available the formulas and color stocks you need for United States Army, Navy and Marine uniform materials.

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PROVIDENCE	15 Westminster St.	CHARLOTTE	201-203 W. First St.	CHATTANOOGA	James Bldg.
CHICAGO	357 W. Erie St.	GREENSBORO	Jefferson Standard Bldg.	PORTLAND, ORE.	646 N. Thompson St.
PHILADELPHIA	200-204 S. Front St.	ATLANTA	140 Peachtree St.	TORONTO	137-145 Wellington St., W.

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CRAMERTON MILLS
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MONOMAC SPINNING CO.
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NONQUITT MILLS
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WILLIAM WHITMAN COMPANY, Inc.
NEW YORK BOSTON PHILADELPHIA CHARLOTTE

SUPER-FIN.. for Dyeing without Grease Spots
in spite of hard water or oils in the goods

Super-Fin for hosiery finishing has great emulsifying qualities. Improves finish. Adds elasticity to silk. Treat every bath with Super-Fin and get even dyeing, avoid re-dyes. Replace an equal amount of degumming with Super-Fin, at no extra cost, and get a better finished product. . . Other high grade "Standard" Products include Drummond Soap, Stanso Palm Oil Curd Soap, etc., etc.

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Special Machines designed and built

For efficient multiple-spool winding with uniformly smooth lay. Wooden or paper spools. Winds from barrel or pin swifts, cops, cones, etc. Write for catalog.

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TEXTILE MILL NEWS

Glencrest Woolen Mills, North Bellingham, Mass., recently organized, have operations under way in former mill of Bellingham Textile Co., purchased by new company. P. Hanlon, formerly superintendent of Harris Woolen Mills Co., Worcester, Mass., heads new company.

Glendale Spinning Mills, Hamilton, Ont., recently completed a one story addition, 45 x 30 ft., to the shipping room.

Jefferson Woolen Mills, Knoxville, Tenn., have built a new warehouse at cost of $15,000, replacing an old one.

Pacific Mills, Lawrence, Mass., have sold their five-story mill at Central Ave. and Washington St., Dover, N. H., on site 169 x 318 ft., to Harry L. Farnham, Dover, who will raze the structure to make way for a two-story building for other service.

Riverdale Woolen Mills, Ltd., Inglewood, Ont., plan one-story addition. Cost reported about $50,000, with equipment. Capacity will be increased.

Rosamond Woolen Co., Ltd., Almonte, Ont., plans one-story addition for increased capacity. Cost estimated close to $45,000, with equipment.

St. George Woolen Mills, Ltd., St. George de Beauce, Que., plans erection of four-story addition, 60 x 115 ft. Cost close to $110,000, with equipment.

Star Woolen Mill, South Pittsburgh, Tenn., has put into operation another garnett machine, and related equipment. This gives the company six of these machines.

West Coast Woolen Mills Ltd., B. C., have placed contract for addition, one story, 87x33 ft.

Textile Weavers Ltd., Grand'mere, Que., have installed a new wool spinning plant to produce the woolen yarns it uses. Machinery includes one set of Whitin cards, three Whitin large-package wool ring spinning frames, and accessory machinery. In the weaving department there are 36 C & K looms producing women's wear woolens and worsteds.

Rayon & Silk Mill News

American Viscose Corp. will spend about $1,000,000 on its Marcus Hook, Pa., plant.

Belding - Heminway Co., Putnam, Conn., has a new 2-story addition for production of an industrial cotton thread. Resulting from purchase of Summit Threads Co. Improvements within the mill have provided housing for filtering and softening equipment for new processes. A second story is being built over the machine shop for expansion of this department. A new wing has been added to the office unit and the basement will be used for an infirmary and cafeteria. Company reports a net profit of $151,581 for the first quarter. This compares with $133,315 for the corresponding quarter of 1939.

Burlington (N.C.) Mills Corp. will convert its Statesville unit into a rayon throwing mill.

Cascade Rayon Mills, Mooresville, N. C., have enlarged the weaving and preparatory departments by constructing an addition to each.

Celanese Corp. of America, Cumberland, Md., has begun the construction of a 250,000 gal. water tank to be used as a reserve supply.

Cleveland Cloth Mills, Shelby, N. C., has built an addition costing $30,000 to house its cloth inspection department.

Delaware Rayon Co., New Castle, Del., has made improvements and repairs in machinery and equipment. Mill was closed down recently for about a week for this purpose.

Economic and Industrial Development Board, Province of New Brunswick, Canada, is making arrangements for establishment of a ravon staple fiber plant. Location has not yet set. Production will will be by a private firm, with financial assistance from the New Brunswick government.

Industrial Rayon Corp., Painesville, Ohio, is installing a York Ice Machinery Corp. machine with capacity of 1,000 tons of refrigeration every 24 hours.

Joy Silk Mills, Hartsville, S. C., silk throwing mill, have added additional equipment purchased from Fletcher Works.

Benjamin Kahn Ribbon Mills, Attalla, Ala., have awarded the contract for a modern steel and brick building to replace building destroyed by fire several months ago.

Minneawa Mfg. Co., Knoxville, Tenn., recently organized and now operating 16 looms for production of labels and kindred specialties, is considering installation of additional looms, etc.

North American Rayon Corp. reports net sales for 1939 at $11,646,535 compared with net sales of $8,487,034 the previous year.

Tubize - Chatillon Corp., Hopewell, Va., has closed bids

Mineral Khaki Shades

for Government Requirements

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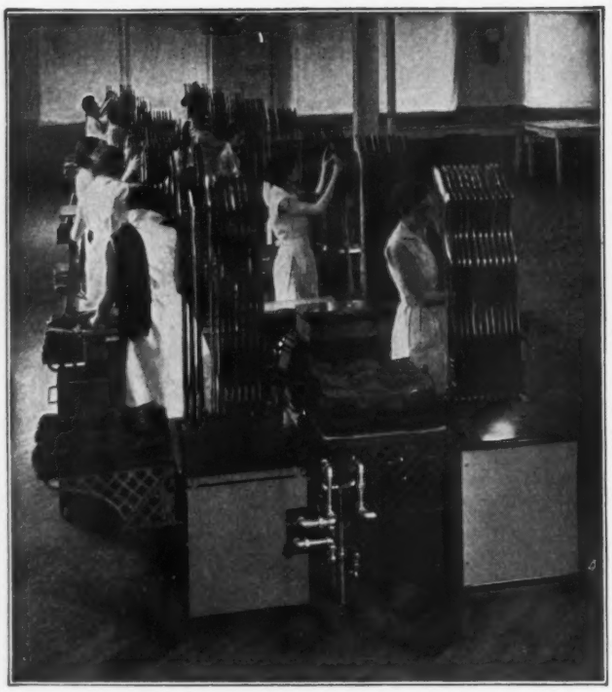
PARAMOUNT DUAL HEAT

1000 DOZENS DAILY

HOSIERY FINISHING



A PRODUCTION in excess of 1,000 dozens full fashioned ladies' hosiery is being finished daily on the 13 PARAMOUNT DUAL HEAT MACHINES operated in this mill during one eight-hour shift—and the character and quality of the work is incomparable since the PATENTED DUAL HEAT principle of drying is positive protection against "baking" delicate silk fabrics. Not only does the PARAMOUNT DUAL HEAT MACHINE contribute outstanding features of production and quality, but it represents—

1. Less investment per dozen
2. A minimum of floor space occupancy
3. Less power and steam consumption per dozen
4. Ideal room and working conditions
5. Less maintenance
6. Ease and comfort to the operator
7. Simplicity and durability of construction

Any one feature alone, of the numerous advantages which the PARAMOUNT DUAL HEAT MACHINE offers, will justify a change to this superior method of hosiery finishing.

WRITE FOR DETAILS

Furnished on SALE or RENTAL Plan.

PARAMOUNT TEXTILE MACHINERY CO.

538 South Wells Street Chicago, Illinois

for one-story addition to mill, cost reported over $75,000, with equipment. Carneal, Johnston & Wright, Richmond, Va., are architects.

Knitting Mill News

American Hosiery Co., New Britain, Conn., in line with plans to discontinue manufacture of products not showing a profit has organized American Hosiery, Inc., which will produce hereafter, only underwear and sportswear, effective July 1. Among the products discontinued are sweaters and bathing suits. Sports hosiery is the only hosiery now manufactured.

Archie Hosiery Mills, Columbia, Ga., will soon complete an $40,000 addition.

E. W. Babb Mill, Dallas, Ga., has purchased 16 knitting machines, three loopers, etc. from local mill of Prewett Hosiery Mills, which have discontinued business. It will be used for expansion at Babb mill.

Brampton (Ontario) **Knitting Mills** are being enlarged by a three-story addition.

Decatur (Tenn.) **Hosiery Mill,** recently destroyed by fire, sustaining a loss of about $25,000, will be rebuilt.

Eastern Shore Hosiery Co., Easton, Md., has begun operations with three full-fashioned machines, two seamers, one looper and one examiner. The company is manufacturing 42-gauge hosiery in gray. Alfred Martin is in charge of the company.

Ellis Hosiery Mills Co., Hickory, N. C., has completed an addition which more than doubled capacity of the mill.

Gate City Hosiery Mill, Kingsport, Tenn., Ryland Craft, head, plans modernization and improvements in mill building.

P. H. Hanes Knitting Co., Winston-Salem, N. C., has almost completed its new seven-story building. J. E. Sirrine & Co., Greenville, S. C., is the engineering firm, and C. M. Guest, Anderson, S. C., is the contractor.

Maryon Hosiery Mills, Carrollton, Ga., owned and operated by T. F. Hurst, is now in larger quarters which has permitted the company to expand.

Milne Hosiery Mill, Cleveland, Tenn., plans rebuilding of portion of mill recently damaged by fire. Official estimate of loss has not been announced.

Mountain City Knitting Mills Chattanooga, Tenn., will be liquidated and its officials retire from hosiery manufacturing, it was announced recently.

E. A. McGill is treasurer and general manager and W. L. McGill is secretary.

Penman's Ltd., Paris, Ont., recently completed an addition to its mill at Waterford, Ont., 60x49 ft., for storage of wool.

Whisnant Hosiery Mills, Hickory, N. C., has constructed two new buildings greatly expanding the capacity of the mill. New style Komet machines for English-ribbed hosiery for men are being installed, in addition to 40 new spiral knitting machines.

Processing Plant News

Artex Dyeing & Finishing Co., Paterson, N. J., recently chartered, has acquired former mill of Bouchard & Charvet Co., and will improve and occupy for new dyeing and finishing works. August Phily is president of new company; and Milton Mandel, previously sales manager for General Piece Dye Works, treasurer.

Crown Converting Co., Lincolnton, N. C., newly organized, is in operation. It is housed in the old Elm Grove Mill building. It bleaches, dyes and winds and mercerizes yarns for the knitting, weaving and sewing trades.

Fair Lawn Finishing Co. has been formed in Paterson, N. J., and plans to take over the old plant of Masson Dye Works. Officers of the new firm were all officers of Textile Dyeing & Printing Co. of America which recently sold its Fair Lawn, N. J., plant to the Wright Aeronautical Corp.

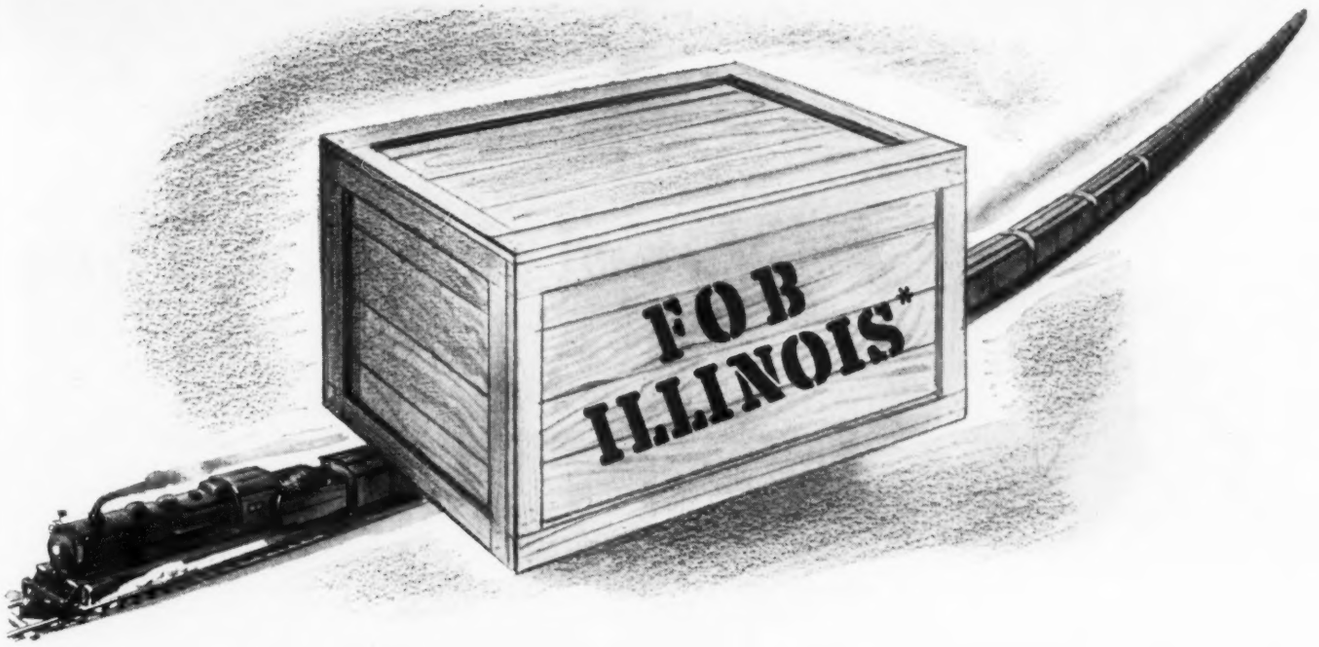
La Francaise Silk Dyeing & Finishing Co., Paterson, N. J., is making replacements and improvements in equipment.

W. Robinson & Son Converters, Ltd., Toronto, Canada, is erecting an addition to its Woodbridge, Ontario, plant, to increase capacity by 50%.

Rock Hill (S.C.) **Printing & Finishing Co.** will pay to the city of Rock Hill the difference between the $65,000 city bond issues and the total cost of the expansion program of the city-owned water plant.

Sunbury (Pa.) **Finishing Co.** and **Sunbury Textile Print Co.** are in hands of R. E. Diehl and W. Luther Hoffman, receivers.

Trenton (Ontario) **Dyeing & Finishing Co., Ltd.,** just chartered for $20,000, has commenced operations. J. Parker is manager. Latest type dyeing and finishing equipment has been installed. Mill measures 130x66 ft. Employment will be given to 50.



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THE STATE OF BALANCED ADVANTAGES

Wool in War Time

Comments by Henry G. Lord

Even with the big war orders being placed by the Army and Navy Departments the problem of adequate supply of wool has not yet become acute as it was in the World War, but the trend away from woolen toward worsted cloth for uniforms means that the Army will eventually get priority on wool suitable for combing, much of which comes from Australia and New Zealand.

As I was reading that remarkably comprehensive and illuminating article in JULY TEXTILE WORLD on "Defense and Textile Demand," I was reminded of an incident in connection with wool, which occurred while I was in London during the World War.

When I went over as one of a small commission invited by the British Government to study the various ways by which Great Britain had adapted its industries to war purposes, the problem which was then bothering the wool trade and the wool manufacturers in this country was how to get release of large quantities of Australian wool of which we were sorely in need and which, because of wartime difficulties, had not been coming through in sufficient quantities. One of the things that I wanted to find out was why it was being held up and how it was to be marketed in this country.

When I got to London, I went at once to our Embassy and the Ambassador turned me over to A. M. Patterson, a wool manufacturer who was, or later became president of the Textile Alliance. It will be recalled that the Textile Alliance was the clearing house for all purchases of wool for the United States. Mr. Patterson told me he wasn't getting anywhere with the British authorities about the method of releasing and distributing wool in the United States, the prices it was to be sold at, etc.

Then I went to Bradford to see Sir Vernon Willey, but to no purpose. There seemed to be a "jam" and the real authority was apparently higher up.

Several weeks later, our commission was invited to lunch one Sunday by Sir Thomas Lipton, at "Osidge," his home in the suburbs of London. After luncheon, several gentlemen came in whom Sir Thomas said he thought we would like to meet. One of them introduced himself as Sir Andrew Weir and sat down beside me. He asked what branch of industry I was interested in and when I said textiles, he began to talk about the wool situation and I could see at once that he knew a lot about it. "Just what is your official position, Sir Andrew?" I asked. "I am the Surveyor General." That did not mean much to me except possibly it might have something to do with civil engineering. So I asked just what the Surveyor General's duties were. "I have charge of the allocation and distribution of the raw materials of the Empire," said he. "Including wool?" I asked. "Yes." "Then you are just the man I am looking for," I said and we went over to a corner of the room and plunged into a long discussion about the best way of getting British wool into American consumption.

I favored the auction system under the circumstances that prevailed at that time. It seemed the best way to tide over the transition back to the normal American way of merchandising and it was the method the British used and were most familiar with.

Sir Andrew invited me to call upon him at his office at the Ministry after my return from France, which I did a few weeks later. Whether these conferences had anything to do with the subsequent plans for auctions in Boston and Philadelphia, of course I do not know, but it was certainly an interesting coincidence that I should have met by chance in that informal way the man at the top who had to make the final decision in this matter.

I have been looking over issues of Textile World published during the World War and reading the reports I wrote home about that wool situation and other textile developments which were very acute at the time. Then, as now, TEXTILE WORLD featured the various developments and impacts of the war on the textile industry. We did a good job then, but nothing compared to the National Defense job we are geared up to do now. In those days we had one Washington correspondent, supplemented by weekly Washington visits of one of the editors and my trip abroad for three months. Now we have eight members on our Washington staff, several of whom specialize on textile contacts, (and contracts) with correspondents all over the world as well as the Washington visits of the editors.

With the experience of the last war to guide us, TEXTILE WORLD is set up to give splendid service in connection with the Textile Defense program.

HENRY G. LORD, *founder of Textile World in 1888 and president, Bragdon, Lord & Nagle Division, McGraw-Hill Publishing Co.*